JANUARY 29, 1955

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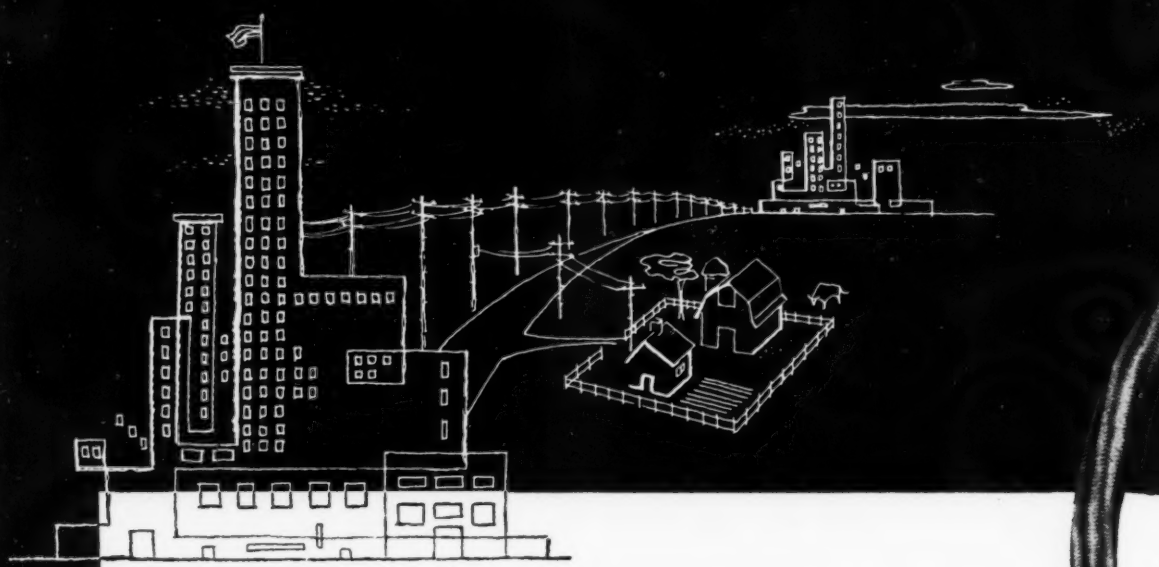
Guaranteed Circulation This Issue

10,519 of Which 10,015 Is Paid

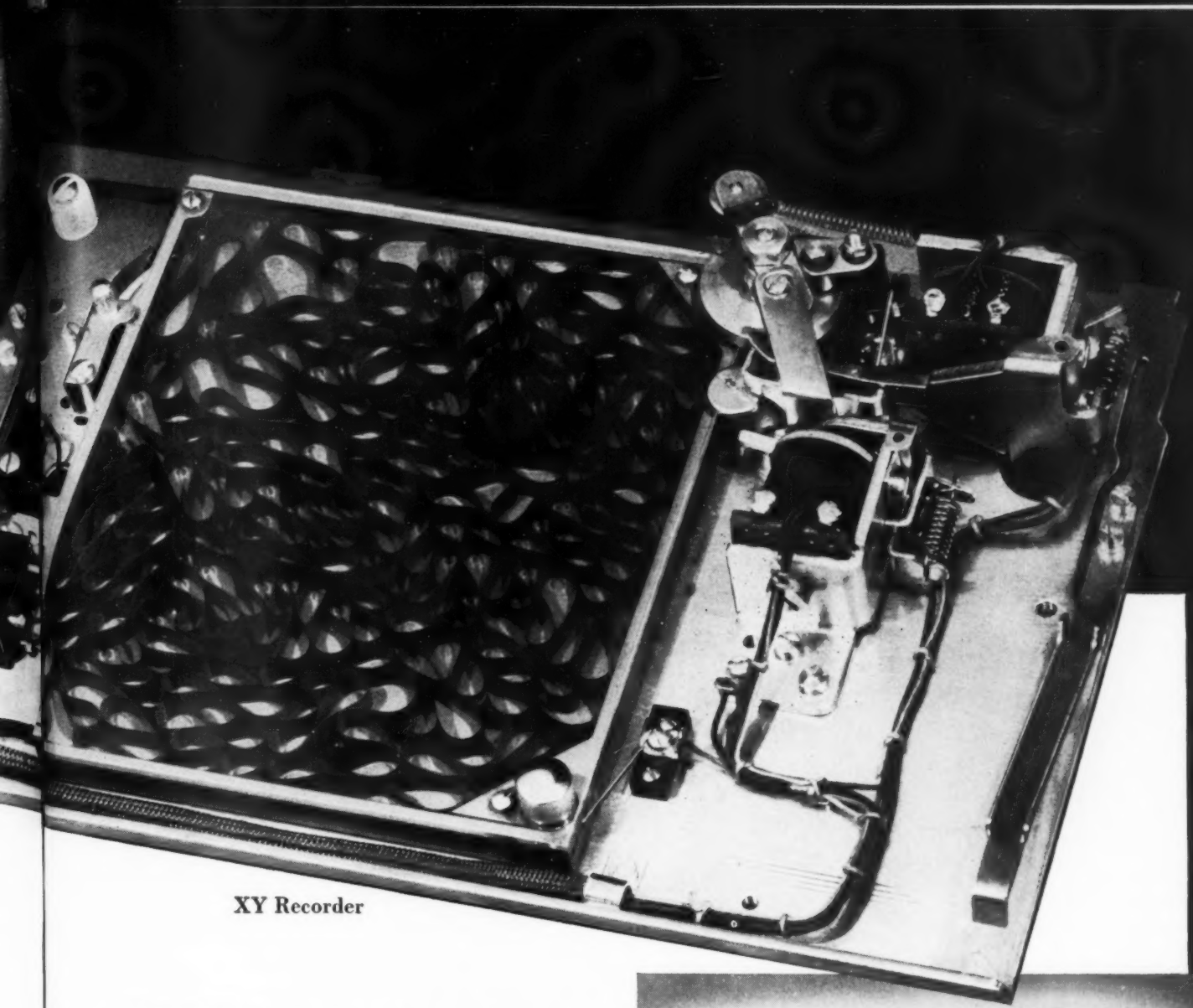


Are you happy with your profits (or losses) on short-haul tolls?

If expensive recording and billing expenses are reducing the *gross* income from your short-haul tolls to zero—or to a loss, you need the Stromberg-Carlson XY* Toll Ticketing system.

Here is Electronics at its time-saving, money-making best! From the moment a subscriber reaches a trunk to a toll point to the moment conversation is completed and the receiver replaced, the XY Toll Ticketing system answers, monitors, verifies, records and computes the data. It even prints it on a uniform ticket from which billing is made.

- **XY Toll Ticketing is unattended—the first *person* concerned is whoever gathers up the printed tickets each morning.**
- **XY Toll Ticketing's recorder has a storage capacity of 100 calls per trunk—and will automatically clear itself when near-capacity is reached or a pre-determined playback time comes around.**
- **XY Toll Ticketing will work with *any* system in which connections are made in direct response to the subscriber's dialing operation.**
- **XY Toll Ticketing includes control circuits by which trunks in remote offices can be "read" and their stored information played back to one central ticketing source.**
- **XY Toll Ticketing's magnetic tape, electronic tubes and mechanical components are built to *last* far beyond even high standards of performance.**

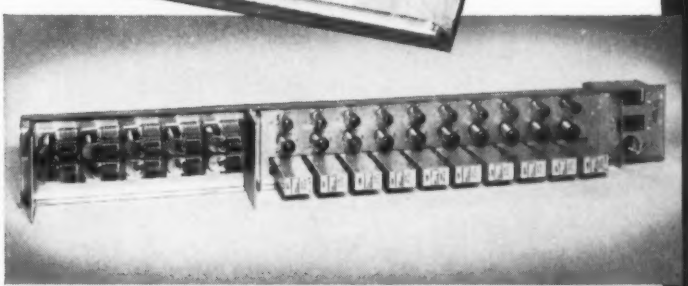


XY Recorder

- **XY Toll Ticketing is one of the soundest investments you'll ever make—since, with it, A-B toll operation ceases to be a headache and becomes profitable.**

These are the main components of the XY Toll Ticketing system:

- **XY Recorder—with endless magnetic tape and automatic playback.**
- **XY Identifier Circuit, to identify thousands, hundreds, tens, and units digits of the calling party's number.**
- **Printing and Cutting Unit—basket holds up to 2500 tickets.**



Identifier Circuit

Printing-Cutting Unit

Stromberg-Carlson®

FACTORY, GENERAL OFFICES: ROCHESTER 3, NEW YORK

Atlanta 3, Ga., Chicago 6, Ill., Kansas City 8, Mo., San Francisco 3, Calif. Manufacturing Branch, Dallas, Texas.

*Reg. U. S. Pat. Off.

XUM

Lower installation costs with Copperweld LINE WIRE

Many companies have found that it costs less to install Copperweld* Line Wire than any other type. It's light in weight, smooth, easy to handle and economical to string, even on the longest spans. Next time you order line wire, specify "Copperweld." You'll find it pays!

TWO POPULAR SIZES

.104"-40 High Strength for toll lines and long subscriber loops.

.080"-30 Extra High Strength for short subscriber loops and secondary toll lines.

*Trade Mark

Good Engineering Demands the Best Materials . . .

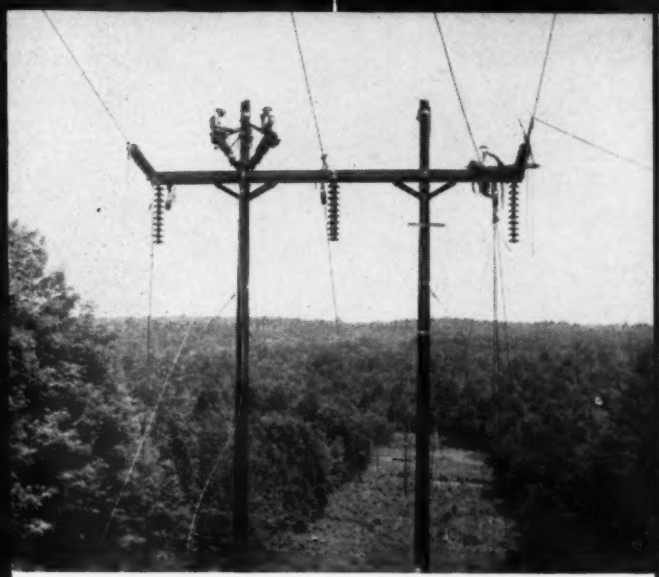
COPPERWELD STEEL COMPANY
WIRE AND CABLE DIVISION
Glassport, Pa.
For Export: COPPERWELD STEEL INTERNATIONAL COMPANY, New York

COPPERWELD NON-RUSTING LINE WIRE and GRIP-FLEX TIES . . . The Ideal Combination

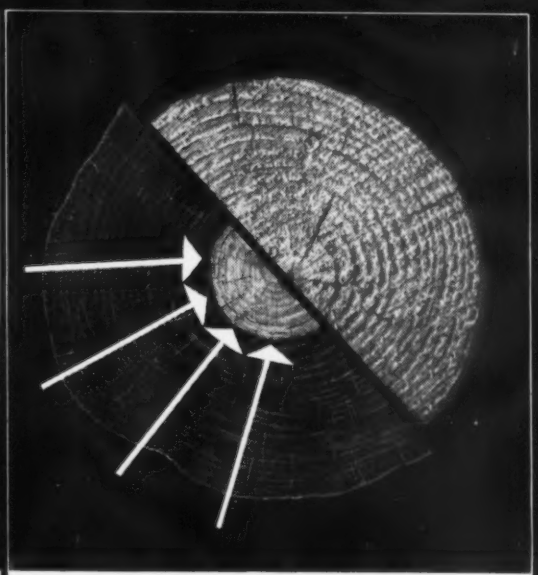
SOLD BY LEADING DISTRIBUTORS

Another utility case history

Clean Penta-preserved poles won't stain or bleed



PUBLIC SERVICE CO. OF NEW HAMPSHIRE specifies clean Penta protection for western red cedar poles, Douglas fir crossarms. Since 1951, this company has used Penta-treated wood to resist decay and wood-boring insects. Penta gives wood installations at least 4 times longer life.



PENTA GOES DEEP! Cross-section of two poles—Penta-treated at left, untreated at right—shows depth of Penta penetration. Penta effectiveness is as high after 20 years as it is after one month. Penta provides lasting economy!

PENTA PROTECTS WORKMEN, TOO! Penta stays put, will not bleed or leach out of wood. Penta-treated wood is clean, does not "burn" hands or stain clothing and, when properly treated, it is odorless.

SPECIFY PENTA for POLES, CROSSARMS, TRANSFORMER PLATFORMS, BRACES, CONTROL BOXES, PLANKING. More than 85 treating plants will apply Penta for you. Write us for this list, and for "Poles and Crossarms" booklet. Organic Chemicals Division, MONSANTO CHEMICAL COMPANY, Box 478-X, St. Louis 1, Missouri.

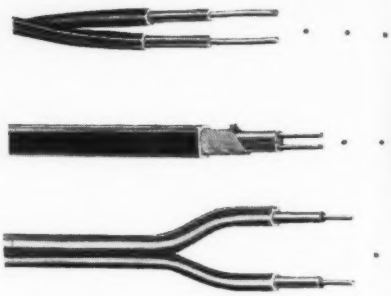
MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY... WHICH SERVES MANKIND

XUM

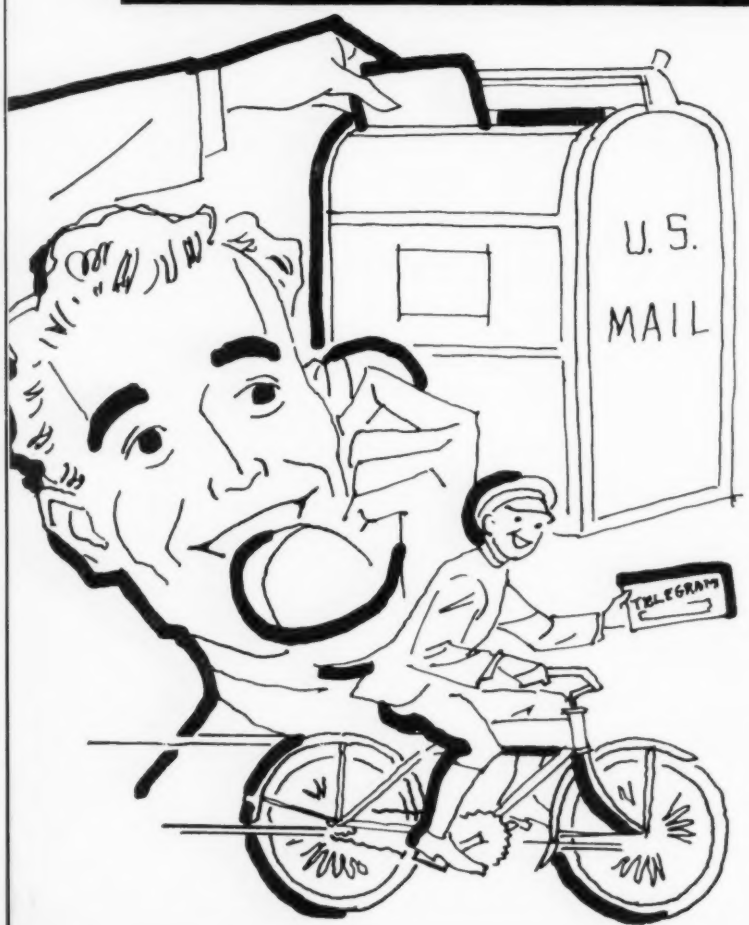
Simple, Quick and Sure! For splicing two wires of different sizes, there's nothing simpler than using Nicopress reducing sleeves and the Nicopress 31-DC tool. Splices are always tight and strong. Tool and Sleeves are made by NATIONAL TELEPHONE SUPPLY CO.

These Double-Faced Signs are made of long-life porcelain enamel fused to heavy gauge steel. Clear visibility and permanent, bright colors are features of signs made by INGRAM-RICHARDSON MANUFACTURING CO. Available in either plain or activated surface.

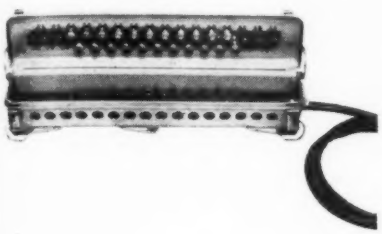


Afraid of Winter? Keep your lines in action — your maintenance costs down, with DIAMOND WIRE & CABLE CO.'s RED-D Drop Wire. Superior adhesion, conductivity, tensile strength. Available in Copperweld and Signal Bronze.

KELLOGG *for Line Supplies*



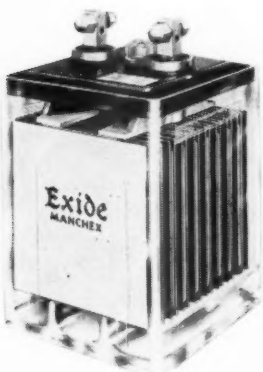
• Write, 'phone or wire all orders for Line Supplies to your nearest Kellogg Warehouse. Kellogg's stocks of guaranteed line supplies are complete--shipments are made immediately. Save time and money--send *one* order to *one* source--KELLOGG!



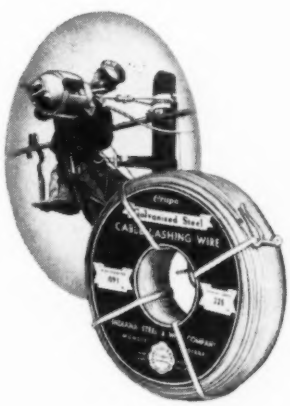
The Cook Stranterm available with 11, 16 or 26 pair cable stubs. Only strand mounted Cable Terminal designed for a flexible system of selective discharger protection. Supplied with either plastic or lead sheathed cable stub. COOK ELECTRIC COMPANY.

Peak Performance at Lowest Cost! Get better voice and high frequency transmission with COPPERWELD STEEL CO.'s Line Wire. It's non-rusting, light in weight, easy to string. Permits safer long spans with great savings in initial construction and upkeep.

S-5 Sub-Cycle for Synchromonic ringing. Generates 30, 42, 54 and 66 cycles plus a fifth frequency. Ringing frequencies are locked to the AC line frequency. Provides maintenance-free operation. Made by LORAIN PRODUCTS CORPORATION.



Time Proven — for 62 years Exide Batteries have been serving the telephone industry . . . the Manchester Positive plate with its button type construction provides long life. Exide meets all battery requirements. Exide Industrial Division, ELECTRIC STORAGE BATTERY CO.



Cable Lashing Wire for use with modern Cable Spinners. Crapo Galvanized ("C" Coated) Lashing Wire available in .091" and .061" diameters. This "Stainless Steel" Lashing Wire is also available in .045" and .065" diameters. Made by INDIANA STEEL & WIRE CO.

WRITE, 'PHONE OR WIRE YOUR NEXT ORDER FOR SUPPLIES TO . . .

KELLOGG DIVISION OF IT&T

A Division of International Telephone and Telegraph Corporation

KELLOGG SWITCHBOARD AND SUPPLY COMPANY

SALES OFFICES: 79 West Monroe Street, Chicago 3, Illinois

YOUR NEAREST KELLOGG SHIPPING POINT IS NEVER FAR AWAY!

KELLOGG Branch Warehouses and Offices:

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St. Paul 4, Minnesota
Nestor 5878

1515 Turtle Creek Blvd.
Dallas 2, Texas
Prospect 5191

1663 Mission Street
San Francisco 3, California
Market 1-6011

1555 West Fourth Street
Mansfield, Ohio
Mansfield 7-2816

KELLOGG Branch Offices:

406 S. Main Street
Los Angeles 13, Calif.

720 S. Washington Street
Portland 5, Oregon

XUM

FLASHES AND PLUGS

MANLY ART OF SELF-DEFENSE. An exasperated Muskegon housewife asked police to help in breaking a padlock, according to a news clipping sent in by James L. Read, general traffic manager of General Telephone Co. of Michigan. Chivalrous officers who rushed to the rescue of the damsel in distress had to decline to serve though.

Seems the woman's husband had built a strongbox which he had padlocked around the telephone before leaving for work each day. He complained that when the telephone was left in the open his wife carried on excessive conversations with friends, leaving housework undone and meals unprepared.

It's a little inconvenient, police decided, but there's nothing criminal about locking up a telephone.

• • •

TOUJOURS THE TELEPHONE. The Associated Press reports that in Long Beach, Cal., a man and his wife heard a knock at the door of their upstairs apartment. "Why, it's Bootsie," she said, thinking of her Persian cat.

When she opened the door, she saw a golden fur seal, which gave evidence it wanted in. Giving a flap and a honk, the animal entered, only to have the man of the house remove his belt and put it around the seal's neck for a walk back downstairs.

A telephone call to the animal shelter brought an understanding officer. He escorted the grunting animal to the ocean—at nearby Seal Beach.

Apparently unwelcomed ashore, the seal plunged into the sea.

• • •

LOCK-UP CHECK-UP. A New Britain, Conn., policeman got a bit of a start recently when he picked up the telephone at headquarters.

"Hello," a voice said, "I'm calling about the room you advertised. Is it still vacant?"

"This is the police station, and we have plenty of rooms vacant," said the policeman.

The caller paused, then said: "If my luck doesn't change I may have to take you up on that."

• • •

PLAYING THE ANGLES. "How much tax is due on $75,000 income?" a Denver woman asked a Government tax expert by telephone.

About $41,180, not counting deductions, she was told.

"Well, what about $150,000?" she asked.

The bill jumped to $101,980.

Asked why she inquired, the woman replied:

"I'm just deciding whether to buy one or two tickets on the Irish sweepstakes. Thanks for your help."

CIRCULATION

Guaranteed circulation of this issue is 10,519, of which 10,015 is paid.

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

January 29, 1955

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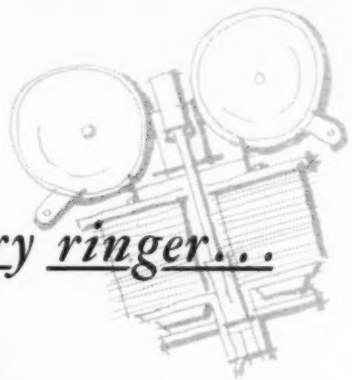
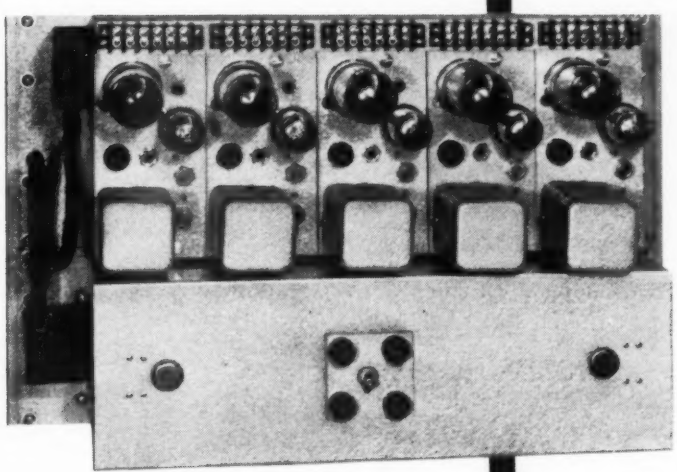


Behind every ringer...

there must be a dependable ringing supply



Here's what users have to say about the "dependability" of the KELLOGG *Electronic Ringing Generator*

"From the first day that we placed the Kellogg Electronic Ringing Generator in service we have seen our trouble due to ringing power disappear . . ."

WELLINGTON TELEPHONE CO., WELLINGTON, OHIO

"Routine maintenance has been reduced to practically zero..."

LOS GATOS TELEPHONE CO., LOS GATOS, CALIF.

"This generator is handling the ringing requirements for 6,000 subscribers, and we are convinced that it is overworked at times. However there is no visible indication to that effect."

WOOD COUNTY TELEPHONE CO., WISCONSIN RAPIDS, WISC.

"Their compactness, ease of installation, minimum mounting space and reliability of operation give them preferred rating by all of our equipment personnel."

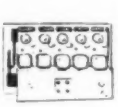
TELEPHONE SERVICE COMPANY OF OHIO, LIMA, OHIO

Why the Kellogg Electronic Ringing Generator Gives Continuous, Trouble-Free Performance in Installation After Installation:

- **No moving parts, — no contacts to adjust.**
- **Excellent frequency stability with respect to room temperature, humidity, ringing load, input power and voltage variations.**
- **Maximum ringing power with lower power consumption.**
- **Sound straight forward circuits . . . minimum number of components operating well below rated capacities,**

AND MANY OTHER FEATURES THAT MEAN SUPERIOR RINGING SERVICE.

Get All the Facts on the Kellogg Electronic Ringing Generator . . . right away!



KELLOGG SWITCHBOARD AND SUPPLY COMPANY
79 West Monroe St., Chicago 3, Illinois

Send me complete information on the Kellogg Electronic Ringing Generator.

Name_____ Position_____

Company_____

Address_____

City_____ Zone____ State_____

KELLOGG DIVISION OF IT&T

KELLOGG SWITCHBOARD AND SUPPLY COMPANY

A Division of International Telephone and Telegraph Corporation

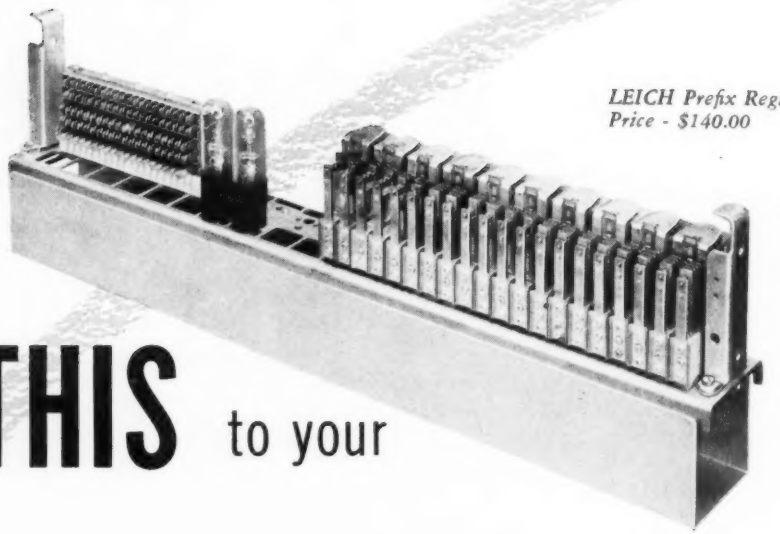
SALES OFFICE: 79 West Monroe Street, Chicago 3, Illinois

Warehouses: Chicago 38 • Kansas City 1 • Mansfield, Ohio • St. Paul 4 • Dallas 2 • San Francisco 3

Branch Offices: New York 7 • Portland 5 • Los Angeles 13

Export: International Standard Electric Corporation, New York 7, N. Y., U. S. A.

XUM



LEICH Prefix Register Bar
Price - $140.00

ADD THIS to your Leic Dia

and you're equipped FOR 2L-5D D

And now . . . here's another EXTRA feature you get with the Leich Dial System. Suppose your exchange is taken into the nationwide toll dialing network. If this happens, you can equip your Leich Dial System for 2L-5D numbering, quicker, with less expense, than with any other type of dial switching equipment. *Whatever* the future may bring . . . you'll be ready with the flexible Leich Dial System. Write today for our catalog which gives complete information.

Photograph shows where the Prefix Register Bar is jacked-in on the Leich Dial System.

LEIC MAN LEIC PACIF

XUM

eic Dial System . . .

5D DIALING!

Quick, Easy, Inexpensive

Here's good news! This new Leich Prefix Register Bar makes it a simple, fast, low-cost job to convert your new Leich Dial System to 2L-5D dialing. This Prefix Register Bar is the ONLY thing you add. It consists of a few relays, a pair of resistance lamps and a cross connecting block. You don't have to change or take out any equipment. This is all that's necessary. None of your equipment is obsoleted, nor are any factory installers or wiring changes necessary.

Just Jack It In!

You need only this single, jack-in unit for each 100-line switchboard bay.

The photograph at the left shows how you can jack-in this Prefix Register Bar on the switchboard bay. Do this, run a few jumpers, and the installation is completed. This unit absorbs the first two or three digits on local calls which is necessary when your exchange becomes a part of the nationwide toll dialing network.

get
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C

MANUFACTURERS OF TELEPHONES, SWITCHBOARDS AND RELATED APPARATUS SINCE 1907
LEICH SALES CORPORATION 427 W. RANDOLPH STREET CHICAGO 6, ILLINOIS
PACIFIC COAST: 2611 SAWTELLE BLVD., LOS ANGELES 64, CALIF. SOUTHWEST: 1227 SLOCUM ST., DALLAS 7, TEXAS

GENERAL SYSTEM

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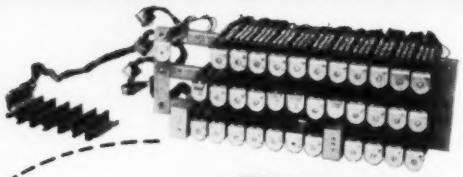
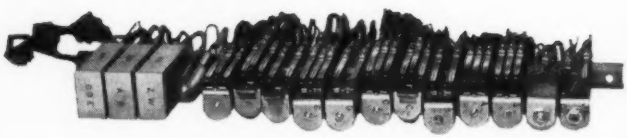
NORTH CXJack-in

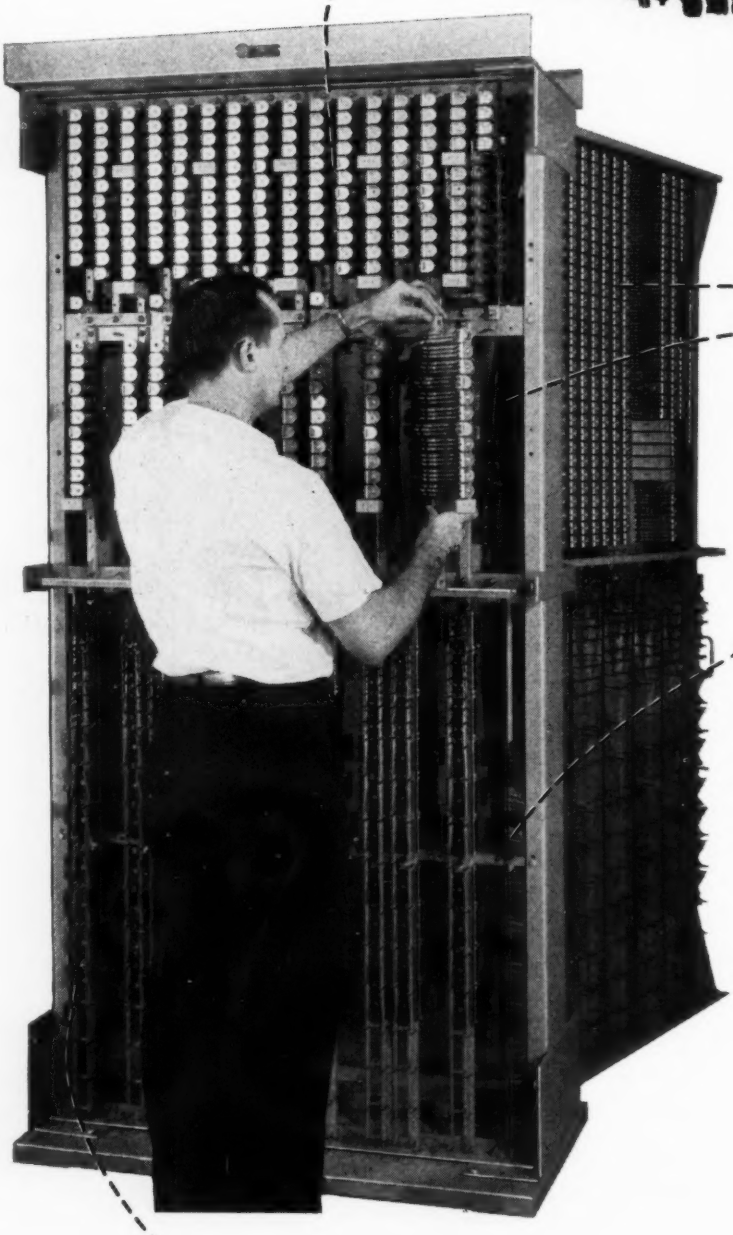


NEW JACK-IN
CONTROL RELAY
UNIT

NEW JACK-IN
INTERRUPTER
STRIP



NEW JACK-IN
DUPLEX TRUNK UNIT



NEW JACK-IN
CONNECTOR
LINK

NEW JACK-IN
MULTIPLE STRIP

Retaining and improving
All of the time tested

NORTH

NEW TERMINAL STRIP
Cabled From TOP
Can be swung free at Handy Level

XUM

A complete *All-Relay* Jack-in Design

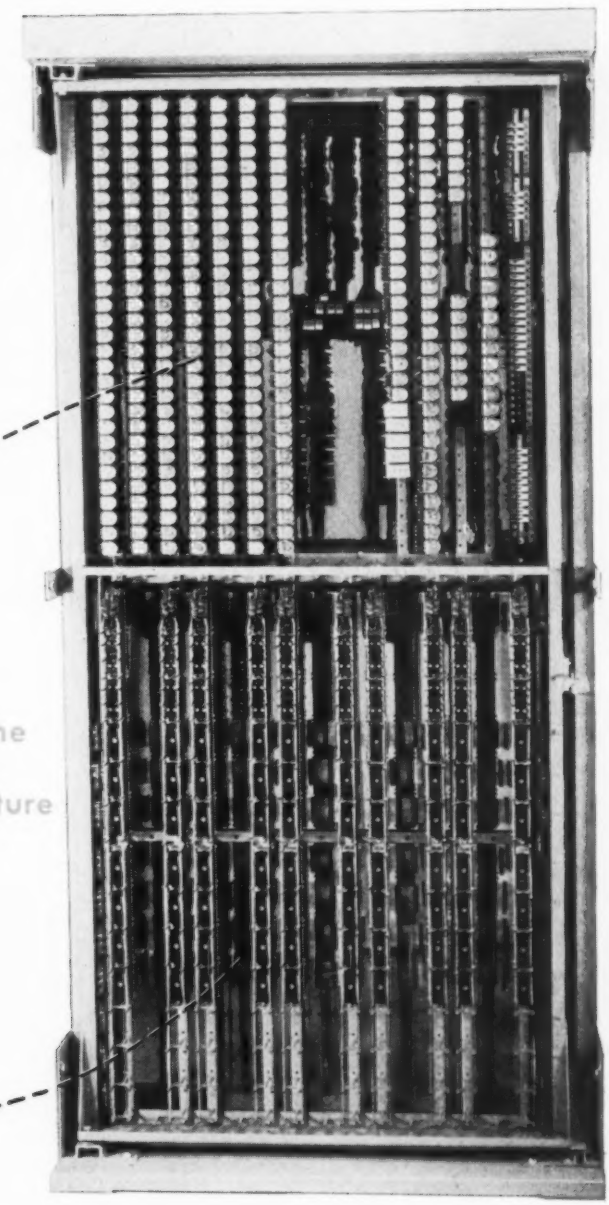
This is the new model of CX equipment with Jack-in components, designated as CXJ. Every advantage upon which the fine reputation of North CX is built is engineered into the CXJ type PLUS the special features listed here, not previously available.

It is important to note that North CXJ, in addition to the advantages listed, saves space as well as time in installation and in maintenance. 100 lines with 15 links of CXJ are contained in a cabinet 40" wide 93" high and 22" deep. The complete CX All-Relay function, so thoroughly proved in use, is accomplished by simplified circuitry with fewer relays.

Complete detailed specification sheets and other information are available on request. A North sales engineer will call on you with full engineering advice concerning the application of CXJ to your system.

Available in Canada through ERICSSON TELEPHONE SALES of CANADA, Ltd. 1410 Stanley Street Montreal 2, P.Q.

NEW JACK-IN LINE RELAY STRIP



Featuring the New North Reed-Armature Relay

NORTH CX advantages

THERE'S A NEW BULLETIN READY... HAD YOUR COPY?

THE NORTH ELECTRIC MANUFACTURING COMPANY

601 South Market Street • Galion, Ohio

XUM

Nobody's lonesome ...with Long Distance!

The empty hotel room . . . the cares of a business trip . . . seem to vanish when Dad calls home—*Long Distance!* It's a pleasant thought that providing such happiness is good business, too, for all of America's telephone companies. Across the page is an advertisement reminding millions of readers of January magazines that a Long Distance call costs so little, and does so much. (And note the suggestion to "call by number." That helps everybody—users and telephone companies.)

XUM

"It's Daddy! Long Distance!"

A regular call from Dad when he's away
is an exciting event at both ends of the line.
Why not try it the next time you're out of town
on business? You'll find it pays heart-warming
dividends in happiness
and peace of mind.
The service is quick.
And the cost is small.

LONG DISTANCE
RATES ARE LOW

Here are some examples:

Cleveland to Pittsburgh..	45¢
New York to Boston.....	55¢
Chicago to Atlanta.....	$1.05
Philadelphia to Miami...	$1.35
Los Angeles to Washington, D.C.	$2.00

These are the Station-to-Station rates for the first three minutes, after 6 o'clock every night and all day Sunday. They do not include the federal excise tax.

Call by Number.
It's Twice as Fast.

Bell Telephone System

Telephone Directory Advertising Exclusively

Our satisfied customers include over 225 Independent and Bell Telephone Companies for whom we sell **TELEPHONE DIRECTORY ADVERTISING EXCLUSIVELY** in more than 5200 cities and towns in 29 states.

Over 2500 Telephone Subscribers are contacted each working day of the year by our representatives who are carefully trained in the specialized skills of **TELEPHONE DIRECTORY ADVERTISING SALES.**

Call or write today for details. No obligation.

L. M. BERRY AND CO.

General Offices • Hulman Building • Dayton 2, Ohio • MIchigan 7421

BRANCH OFFICES in: Birmingham, Alabama • Bristol, Chattanooga, Memphis and Nashville, Tennessee Harrisburg, Pennsylvania • Jackson, Mississippi • Kansas City, Kansas • Louisville, Kentucky • Milwaukee, Wisconsin • New Orleans, Louisiana • Rochester, New York • Tampa, Florida • Warsaw, Indiana

by FRANCIS X. WELCH WASHINGTON EDITOR

Bell System forms new "Merchandising Department" to direct sales of services. . . . Welch suggests all telephone companies must "go out and sell." Consultation of surgeons during and after operation by color TV accomplished.

ON JAN. 19 in New York City, the news broke concerning the reorganization change in the Bell System, which is quite significant from the standpoint of the telephone industry as a whole. By this time readers of this department have probably read elsewhere that Bartlett T. Miller, former American Telephone & Telegraph Co. vice president in charge of public relations, has been shifted to a newly-created post.

It is this new post of "Merchandising Department," which emphasizes the importance of active sales effort now that the telephone industry is catching up with the backlog of postwar demand for service. Of course, the new Merchandising Department of the Bell organization is going to amount to more than mere huckstering activity. There will be equal emphasis on market research—analyzing the customer's needs and preferences—and also some responsibility for planning the actual production of equipment and facilities to tie in with the customer's needs and preferences.

But the basic reason for this change goes back to the good old-fashioned sales promotion activity, which every American businessman and woman can understand. Bell needs "bell pushing." So do other telephone company organizations. This is a healthy and helpful sign during a period when the natural and unavoidable monopolistic position of the telephone industry can be so easily misunderstood. Admittedly telephone companies, in common with all other public utilities, have to have territorial monopolies for the simple reason that two or more utility companies, trying to operate in the same service area would inevitably lead to wasteful duplication, higher rates, and poor service.

But there is a lot to be said for any device which will keep public utilities vigilant. A public utility which sits back and uses the protective coloration of its monopolistic position to serve the public on a strictly "demand basis" can get into serious trouble. It can get into trouble in its public relations, primarily. It can also get into serious political trouble and, in extreme cases, might even get into legal trouble if management gets too slack or too complacent about serving the public.

Everyone in the public utility business realizes, of course, that the so-called monopolistic position of its territorial rights is more apparent than real. In some ways, it is even paradoxical. The very fact that a public utility *is* a regulated monopoly (solely from the standpoint of service territory) puts it under an actual *handicap* in competing with other non-regulated industries. And the public utility must indeed compete with other non-utility business, in such matters as attracting new capital, keeping competent and loyal employes and officials, constructing and expanding adequate and up-to-date plant facilities, and a lot of other things. But non-regulated businesses are able to profit as much as they can, on the basis of what the traffic will bear, from the sale of their competitive products. They can, accordingly, be as liberal as their revenues will permit in paying dividends, wages, and other operating expenses and plant investment. Regulated utilities, on the other hand, have a very definite ceiling of minimum return imposed by regulatory authority. That ceiling rigidly controls the amount a public utility can pay to its security holders, its employes, etc.

There is a temptation, therefore, for public utility management to grow slack in the matter of aggressive service promotion. Its monopolistic status tends to reward conservative operating policy. We see that spirit in our government's Post Office Department, which is a monopoly operated for the most part by loyal and efficient public servants. But because it operates at a loss, there is little incentive for the Post Office Department executives to expand its services, since that would merely mean expanding the deficit. By contrast, as long as the business-managed public utility operations remain in the black, there is at least some incentive not only to please the customer but to think up new ways of pleasing more and more customers.

Now that the telephone business is catching up with the "held order" list, the opportunity is presented for going into new fields of service. Hence, the red, white, and blue telephones. Hence the drive for extensions, duplicate subscriptions to the same customer, "hands off" loud speaker telephones, and various other gimmicks which had to wait around in deep freeze as long as the "held order" list blocked the way.

All telephone companies are well advised to give this new sales promotion spirit the attention it deserves and the publicity it deserves. The true fact is the telephone business is a very competitive business in the one field of business competition that really counts, that is the competition for the customer's dollar. And as long as there is that competition, there can be no suspicion of improper monopoly or the abuses of monopoly. As long as the American public is truly indoctrinated with the idea that its telephone service is being conducted by aggressive sales promoters who are out to please and who think up new ways of pleasing, the radicals and the reform politicians will have a hard job peddling the old bug-a-boo of a "wicked utility monopoly."

It is a somewhat disturbing fact that even so-called competitive business

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has a tendency to wash out its own competition, to some extent, by the very reason of the fact that its operation becomes more efficient through large-scale production. Not long ago in one of the anti-trust proceedings of a certain manufacturing industry, there was evidence that it had become so large and efficient that it could manufacture a certain product and sell it at a price which would mean a loss to its nearest competitor. When wide-scale operations reach that size and that stage of efficiency, it is hard to keep the traditional concept of competition alive and vigorous. Yet, to do nothing and to allow a monopoly to take its course would inevitably mean slack management, restraints of trade by cartels and other allied evils.

Large corporate enterprises themselves are aware of this tendency and some have voluntarily tried to avoid the consequences of economic concentration. One method is the economic divorce or divestiture. General Electric took this step, without any consent decree or other government order, when it voluntarily released its early domination of the operating utilities controlled by the old Electric Bond & Share Co. It saw the wisdom of separating the manufacturing from the operating phases of the electric service business.

Another step is voluntary containment, such as the Bell Telephone System took back under the Kingsbury Commitment—when it agreed to seek to acquire no more Independent telephone companies which were operated in competition with Bell companies and to stabilize the ratio of control in that industry virtually along lines that exist today. Still another method is encouragement of intra-system competition which General Motors has worked out between its own subsidiaries. Buick, Oldsmobile, Pontiac, and Chevrolet are actually goaded to competition with each other by a process of quotas, and sales targets, and setting dealers and distributors against each other.

But the impression persists that only the government in the role of regulator will be able to bring about lasting and workable competition or any substitution for it. The only alternative to that is public ownership, with the umpire trying to double in the role of competitor. This leads to some consideration of the role of public utility regulation. It is not a panacea for the dilemma of public versus private business monopoly. But it is a fact that we have, in this country of ours, by a peculiarly American system of trial and error, worked out a successful substitute for competition between public utilities as such.

Long Rate Case Elicits Paper's Sympathy

Illinois Bell Telephone Co. on Jan. 15 was refused all of a $24,900,000 rate increase it had requested on Feb. 19, 1954. In Harvard, Ill., an exchange served by the company, a local newspaper, the *Herald*, sympathized with the company's problems when it said:

"What most of us in business charge for service is up to us. . . . The ICC (Illinois Commerce Commission) is the outfit that tells Illinois Bell what to do.

"We have been critical, the Lord knows, of phone service and policies in the past. But when we learn, through a phone company bulletin just released, of what was involved when this utility sought to boost rates, we must confess our mood grew more mellow.

"The first hearing was last Apr. 27. Then followed 112 days of hearings that filled 12,000 typed pages. Here are two paragraphs in the bulletin that struck us: 'In the meantime, commission employes worked at investigating our records. Through Oct. 31, they spent more than 11,000 hours, most of them on our premises. That is equal to a crew of 10 working nearly 28 normal 40-hour weeks.

" 'In addition, five experts hired by the city of Chicago worked 484 hours in our offices digging up facts and figures from our records.'

"It all sounds like bureaucracy at its worst. How would the rest of us like a flock of 'snoopers' coming into our place of business just because we needed more money to operate?"

The theory of public utility regulation assumes that it is a two-way proposition. On one hand, the utility company is given territorial monopoly. In return for that it gives up the right to serve whom it pleases or how it pleases or charge what it pleases, which an ordinary merchant in a non-utility competitive business would be allowed to do.

But the best regulation in the world is no substitute for the old-fashioned sound business proposition that "the customer is always right." It is a heartening sign, therefore, to see the telephone industry no longer content to sit back on its "monopoly" and wait for business to come to it simply because it has no place else to go. The telephone companies are honestly going after that extra buck and in the bargain the customer is going to be better pleased as well as better served.

Medicine on Color TV

We've all heard people who like to talk about their operations. But the ultimate wonder seems to be broadcasting it, cut-by-cut and suture-by-suture via colored television. A dramatic series of events in the Nation's Capital last week demonstrated, among other things, that the communications industry, government (represented by army surgeons) and medicine could get together. During a three-day meeting more than 300 doctors, scientists and engineers participated via color and black and white television, coaxial cable, and micro-wave transmission to discuss how best to use these media in medical education, diagnosis and the treatment of disease.

The feasibility of medical consultation by pathologists through the medium of color TV was explored under the auspices of the Armed Forces Institute of Pathology at its new but already obsolescent atomic bomb proof building in fashionable northwest Washington. Everyone knows how difficult it is to get his family doctor to make a diagnosis from descriptions of aches and pains passed on by word of mouth over the normal telephone route and can appreciate the added help color TV may become as an instrument of long distance diagnosis. "You better bring the patient into my office" may mean—sometime in the future—"Let's see what he looks like on my phonovision screen, madam." However, the doctors in Philadelphia, Baltimore, and Washington, D. C. were not monkeying around with any argument about the rash characteristics of the measles as distinguished from scarlet fever.

In an operating room in Philadelphia, a renowned father and son surgical team, Dr. Isador Ravdin, professor of surgery at the University of Pennsylvania's School of Medicine, assisted by Dr. Robert Ravdin, performed an operation. A pathologist, Dr. Robert Horn, carried out an examination of the removed diseased tissue which was viewed by consulting pathologists in Baltimore and in Washington. Cancer tissue was excised from a woman patient on the operating table in Phila-

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Plastic Cable Installation and Maintenance

*By P. M. FERGUSON JR.**

THE TELEPHONE INDUSTRY as a whole has prided itself upon its technological advances. The Independent segment of the industry is now engaged in an unprecedented national advertising program calling attention, among other things, to the improvement in the art of telephony developed by Independent manufacturers.

We have spent millions to develop toll dialing and the associated ticketing and billing processes. We have invested millions in handset telephones and thought little of replacing them later with more modern telephones. Prior to the war, we tried burying rural farm lines—an experiment aimed to reduce the cost of rural service; no one knows how much money we buried in that development.

We jumped on the bandwagon of long-span construction when HTL 85 and 135 and Copperweld wires were developed. Then the highway engineers started streamlining the roads, so today a farmer can turn off the highway at any point to enter his fields. This, plus the height of corn pickers, combines, etc., made long-span construction a dead dodo in some operating territories.

But throughout all these changes, one item of plant remained unchanged . . . referring, of course, to lead cable. Basically lead cable today is much the same as it was originally developed in the 1890's—many paper-insulated, fine copper conductors encased in a lead pipe. Of course, today we extrude the lead on the core and a paper-pulp insulation was developed to replace the paper ribbon insulation. Antimony was also added to the lead to improve the sheath, but in the main, lead cable is not much different from the cable in use when my father started in the business around the turn of the century. Of course, lead cable has a wonderful record of reliability; so did the candlestick telephone but we replaced it. In fact we began to use plastic handsets in the early 1930's for our new bell-in-base telephones. Then we started to use plastic connecting blocks, plastic bases in substation protectors and cable terminals, and next plastic-insulated, inside wire and drop wire. Finally some brave soul . . . developed a plastic telephone cable. . . .

I wonder how many of you received an advertisement in the mail as we did in early August, 1949. This advertisement sang the praises of an entirely new telephone cable. I wonder too how many of you did as I did and chucked the sheet into the wastebasket. Shortly after that, two events occurred almost simultaneously that have almost completely changed the policy of our company's cable practices within the short span of five years.

First an article appeared . . . describing installation of self-supported, six-pair neoprene cable between cable terminals and small apartment houses. Next we met with one of our neighbors in a small village we both served at that time. Now this gentleman had sent for samples of this new type telephone cable and showed them to us. Figuratively speaking, the lightning hit us that day because we were faced with the small problem of replacing a short stretch of open-wire pole line in another village due to a street project.

We had used plastic insulated drop wire and knew about its light weight and strength, so we thought this cable would be proportionately as light in weight and have the strength we needed for our experiment.

Within three weeks of seeing the first samples, we installed 1,000 feet of this cable in the village of Madison Lake along a lake front on a self-supported basis. We took standard cable terminals, plugged the regular cable nozzle, and drilled two holes into the terminal chamber. By cutting the cable at each terminal and using the double entry, we avoided the usual splice and terminal leg method. Within two weeks of the installation, the cable was subjected to a windstorm of almost tornado proportions. In spite of this storm and careless wrecking of the old pole line by our crew, we never had a fault in this cable from that date until we removed it from service in August of this year (1954). More about that later.

Because of the ease of that installation, we decided to use nothing but plastic cable in a new exchange we were constructing in the village of Garden City that winter. We installed approximately 600 feet of the direct burial type plastic cable and about 3,200 feet of serial cable varying in size from 11 pair to 51 pair—all self-supported. This exchange, cut into service Mar. 1, 1950, serves approximately 100 subscribers split almost 50-50 between the village and the adjacent rural area. Yet it has one of the highest calling rates of any of our CDO's (Community Dial Office).

Our records show that it has handled over 650,000 calls since the cut-over on Mar. 1, 1950, or an average of four plus calls per day per station with a high of 25,464 calls in one 30-day period.

Because of my father's passion for figures and data, our company main-

*Mr. Ferguson is Assistant Manager and Engineer of the Mankato (Minn.) Citizens Telephone Co. He presented this address at the Plant Conference of the 1954 Convention of the United States Independent Telephone Association.

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tains many more records than the average Independent company. . . . One such record is the amount of trouble reports for each exchange and this is broken down to cable faults, aerial or underground, open wire faults, drop wire faults, substation protector faults, and instrument faults.

In that period we have had 140 cases of trouble of all types—line wire, instrument, drop wire, substation protection, and cable. Sixty cases were in open-wire lines, 38 in drop wire, but only five cases of cable trouble. In our St. Clair exchange which uses tape-armored lead cable and was cut on Jan. 3, 1949, we have had 23 cases of cable trouble. In all fairness, I should say public improvements were quite largely responsible for the larger number of cable trouble faults in St. Clair. . . .

Because of the success of this installation we have continued to use plastic cables until today we have in service approximately 30 miles, of which better than 95 per cent is self-supported. . . .

We have been asked many, many questions about plastic cables and I would like to try and answer the following ones which we get most frequently because they will probably cover the subject of the maintenance problem.

Q. Does self-supported cable dance?

A. No.

Q. How do you cure dancing on lashed cable?

A. This is the $64 question; because of the variable conditions several different methods may have to be tried. However, the cable will take a lot of dancing without damage, but you are going to get very tired of relashing the spans affected.

Q. How do you splice plastic cables?

A. There are several methods. We use the taped method and make no attempt to solder the aluminum shield.

Q. What span length do you use for self-supported cables?

A. We average about 150 feet whether we use 22 or 19-gauge.

Q. What sag do you have with self-supported cable?

A. Depending upon the size and gauge, it may vary from 1½ to 3½ feet.

Q. How do you shoot trouble on plastic cables?

A. Because of the high dielectric strength of the polyethylene insulation on the conductors, it is almost impossible to "burn" a short on a pair in this type of cable. We have, by experience, found it is wise on long rural cables to provide a junction box at regular intervals where the cable can be opened and a section isolated for measurements. Even then we have on occasion had to walk the section and find the damage which usually has been physical.

Q. What effect has lightning on plastic cables?

A. Again, because of the wonderful insulation, lightning damage does not seem to be as serious a factor as with paper lead cables. I have heard of a case where lightning hit an open-wire line, passed through six miles of plastic cable, and burned the cable pair in the tape-armored, paper lead cable to which the plastic cable was connected. In August of this year, a terrific bolt of lightning blew this plastic cable in two spots within one span, passed through another half mile of this cable and blew out the lead, aerial cable in 12 different spots within the next half mile.

Our practice of using plastic cables in rural areas where they are connected to long, open-wire rural lines exposes the cable to lightning fairly often in our summer months. Four years' service of various cables without an undue amount of trouble pretty well confirms our belief that lightning damage in plastic cables is not a serious matter.

Q. Does the sag increase on self-supported cables?

A. This question initiated an experiment of our own about a year ago. We selected about 10 different spans of self-supported cable; some were on cable installed in 1950 and some were installed in 1953. To give us a fairly accurate basis, we drove a wood stake in the ground at the approximate center of the span and each measurement was made from the top of this stake. Unfortunately our men did not record the temperature on the first series of readings, but data so far gathered indicates that the cable takes an initial sag within a short time after installation.

After that, the sag apparently varies with the temperature. This is, of course, very incomplete data as of now but a few more years observation will pretty well tell the story. Some people have asked if the continued sag has any effect on the conductors. By arrangement with the factory, the original installation was removed from service this past September after five years' service.

Although no information based on actual measurements of variation in the size of the conductors is available, it appears that any reduction that takes place is so minor as to be of no detrimental value to the properties of the cable.

Q. What effect does sleet have on plastic cables?

A. Within a two-year period our plant was subjected to two very severe sleet storms. The first one in the Fall of 1951 was actually more of a wet snow condition than sleet. On that occasion, snow did build up on some of our plastic cables but not to the extent it did on metallic cables. In January, 1953, we were hit by another sleet storm which was definitely sleet. Examination showed that on some of our installations the cable had a very, very thin coating of ice while .080 copper-weld line wire in the same general area had ice from 2 to 3 inches in diameter. Apparently the plastic sheath does not gather sleet as rapidly as does the metallic sheath.

The biggest headache we have had with self-supported plastic cable is the method of support at the poles, particularly at the dead-end. By trial and error we have more or less standardized on using the single upset bolt with a larger free-turning insulator for the support on the straightaways. . . .

The dead-end grip must hold not only the sheath but the core of the cable as well. If it is not securely applied, the outside sheath stretches and may be cut by the strain. Then the aluminum shield may be ruptured and finally pairs can be damaged. We use a double-eye, split cable grip which is laced very tightly to the cable. Care should be used in placing this grip on the cable as it can be put on incorrectly and the cable damaged.

We aren't entirely satisfied with this method and we have repeatedly asked the manufacturer to use bronze wire in the grip because of the rusting of the steel wire in the grip. We have not used the spiral-type grips because we believe that the loops placed on the cable, when such cable serves open-wire lines, provide a choke for the transient lightning currents. We know some people will disagree with that, but no one has taken the trouble to submit that type of installation to a high voltage laboratory test as we suggested.

. . . Small companies have accepted this new product much faster than have the larger ones. Because this cable is easy to install, needs no specialist to splice, no heavy equipment to handle it, the small companies have been quick to use it. Don't forget that these small companies do not have large revenues or surpluses to fall back on, consequently this investment is a serious matter to them. Actually, in our company, we can easily prove in 16-pair, 19-gauge plastic cable against a three-arm, open-wire pole line. In fact, 26 pair, 19 gauge can match our cost of a three-arm load and we have 66 per cent more circuits available. Yet with

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THE PLANT MAN'S Notebook

by Ray Blain, Technical Editor

IF ANYONE has any doubts as to the customer acceptance of the nationwide customer toll dialing plan, the following facts with reference to the Bell System's test of this service at Englewood, N. J., may prove of interest. Englewood has a population of about 25,000 with about 9,500 one-and-two-party stations. These telephones may dial direct about 16 million telephones throughout the country.

During the test, of the total calls which could be completed by dialing, over 96 per cent were dialed. Less than 4 per cent of the dialable calls went through operators. About 25 per cent of the long-haul calls were of non-dialable types—person-to-person, collect and paystation. Only 1 per cent of the shorthaul calls were of these types.

Only on about 15 per cent of the toll calls, was information dialed. This low figure for nationwide calls undoubtedly results from the Bell System's campaign to teach people to write down frequently called out-of-town numbers. Average time on customer-dialed long-haul calls was 11 seconds until start of ring and 18 seconds until the called party answered.

It is reported that Englewood people are completely sold on customer toll dialing. This service couldn't be easily discontinued if such were desired. Consequently, the Bell System considers the Englewood experiment as completed and the installation as permanent.

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It is claimed that there are 16,155 men and 4,010 women 85 years or over who are working in the United States. Then some kids talk about retiring at 65.

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A new battery-operated pocket-type magnetic tape recorder is presently attracting much attention in the communications field. This recorder measures 8½ inches long, 3⅞ inches wide, 1⅞ inches deep and weighs 3¼ pounds.

Life of the dry cell motor battery is 45 hours and the amplifier battery 100 hours. It is cartridge loading. Merely slip a cartridge of recording tape into the machine and you're ready to record. Automatic volume control assures proper recording level at all times. Settings are available for long range and normal pickup.

A recording time indicator tells you at a glance the recording time remaining. The machine records and plays for one hour on each cartridge. The tape may be manually rewound in less than one minute. This arrangement is provided to conserve battery.

Accessories furnished include wristwatch mikes, throat mikes, shoulder holster carrying case, and two-way telephone recording adapter.

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A woman in Alexandria, Va., by the name of Mrs. M. Gordon Tiger, began receiving quite a few telephone calls from people who asked for "Mrs. Lion." She would say, "No, this is Mrs. Tiger," and then the calling party would hang up.

Quite possibly this was somebody's idea of a joke, she thought. But the callers always sounded so dignified and nice. Many times Mrs. Tiger got the impression that they were just as mystified as she was.

"INSTALLING A TELEPHONE LINE, EH? HOOKING UP WITH THE UNDERGROUND, NO DOUBT."

Then a search of the telephone directory disclosed the fact that there was a subscriber whose telephone number was quite similar to that of the Tiger family. Same digits, except that two of them were transposed. The mixups were the result of careless dialing by people who were really trying to call Mrs. Lyon.

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During the late war and postwar expansion, the per cent of one-party residence lines in the Bell System dropped to 23 per cent of the total. By the end of 1952, though, this figure was up again—to 29 per cent of the total; at the end of 1953, 32 per cent, and at the end of 1954, probably over 36 per cent. This will about equal the previous high level reached in 1940.

In view of the increased use of the telephone in the average residence there is every reason to assume that the percentage of individual residence lines will go far beyond the previous high level. Very few customers at the present time are content with an overloaded party line if they can obtain an individual line and at a reasonable cost.

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Many of the large operating telephone companies do a mighty fine job of instructing PBX operators to be courteous to the general public. We have often wondered why they do not also teach private secretaries to be more courteous — really require them to have good telephone manners. The habit appears to be growing, even in business concerns, among these secretaries to inquire, "Who is calling?" when a certain party is asked for. This infuriates the average caller for it gives the general impression that Mr. Big may or may not condescend to talk to him.

Recently we have had cause to believe that the majority of these girls take it upon themselves to inquire the name of the caller. They appear to

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think they are being very efficient and making a hit with the boss if they can inform him that Mr. John Doe is on the line.

One business man of our acquaintance was much surprised when we inquired of him the reason why his secretary had adopted this practice. He made certain this practice was immediately discontinued. In our opinion, many others should do likewise.

• • •

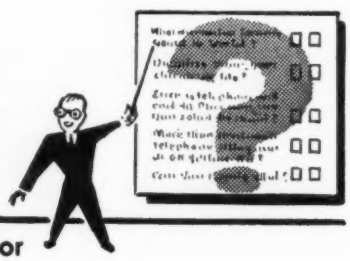
A friend of the writer in Washington, D. C., recently informed us of his unusual telephone experience. Or at least he thought it was unusual because he had not previously encountered the telephone answering device.

This chap called the Blue Cross Hospital Service Plan after hours. A female voice came on and stated that it was a recorded announcement. She further stated that the office was open from 8:30 a.m. until 5:00 p.m., Monday through Friday. If, however, he would please leave his name and telephone number, they would be glad to return the call in the morning.

Our friend was then told to start giving his message at the sound of the tone which must be finished at the second one 30 seconds later. This he did and much to his surprise he was called back the following day with the required information.

Certainly, the telephone answering device operates perfectly and proves ideal for services of this type. There is little doubt that they will be used more extensively in the future.

PLANT MAN'S QUIZ



by RAY BLAIN, Technical Editor

Q. We wonder if you would please advise us what arrangement is recommended for the operation of carrier and repeater equipment during a failure of the commercial power supply in a small exchange.

A. A carrier supply unit of new design is arranged to supply 130-volt 0.5-ampere plate current for carrier or repeater operation. This unit operates from 115-volt 60 cycle single phase power supply normally, and is arranged so that during periods of power interruption it automatically transfers a built-in vibrator which operates from the exchange battery. The output voltage is regulated within ± 3 per cent, with the unit compensating for variations in load and input voltage. The same regulation is provided when operating from the battery even though the battery voltage may vary from 45 to 52 volts.

The transfer from normal 60 cycle supply to battery operation or vice versa is so rapid that the plate voltage never falls to zero, and full plate voltage is restored in less than one-quarter second after a transfer.

The regular exchange battery may be used to drive the supply during emergency operation, as the dc input is sufficiently filtered so that noise is not introduced into the talking battery. The 130-volt dc output is less than 0.40 volt ripple.

This carrier supply unit is housed in a steel cabinet finished in light gray. It can be mounted on the wall or in a 19-inch relay rack.

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Q. What is the pre-lashed type of cable construction, and can it be used to advantage on small jobs?

A. With this method, a roller support is attached temporarily at each pole along the line. The cable and strand are then lashed together and pulled into position under tension. They are then transferred from the rollers to permanent supports. With this method, considerable labor is saved as each pole need be climbed only twice and some of the trips up and down the line may be eliminated.

The principal feature of this system is the prelashing gear which is mounted on the front end of a cable reel trailer. This gear combines a standard cable lasher, a feeder for the cable and a means of tensioning the strand.

The strand is fed from a reel mounted on the trailer behind the cable reel. The strand reel is equipped with a manually adjusted brake to prevent overrunning. The strand feeds forward from the reel, under the trailer, over a direction changing pulley and then through five offset rollers which provide the required back tension. The strand then goes around a pulley to which hydraulic brakes are attached. This provides the main tension on the strand.

Prelashing was first considered as a possible means for the less expensive installation of small cables from the edges of towns into rural areas where long lengths could be placed with only a few splices. Experience has proved, however, that its use also is considered advantageous in heavy trees where it would be necessary to thread the strand and cable through the trees. It is also a problem to pull the lasher through the trees on jobs of this nature.

This method would not ordinarily be recommended for use on small jobs. For instance, short uncomplicated cable installations do not provide adequate opportunity for the labor-saving features of prelashing to offset the time required to procure and set up the special equipment.

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Q. We wonder whether it will be possible to obtain a hard-of-hearing headset for the use of an operator with impaired hearing?

A. We have a recent report of an operator in Virginia who is most pleased with a new advance in the telephone art. Troubled with progressively failing hearing, she had had increasing difficulty understanding subscribers. Her employer inquired of his switchboard manufacturer about the possibility of equipping her headset with a built-in hearing aid.

Engineers of the equipment manufacturer were able to adapt transistors to a compact amplifier for the headset receiver. This amplifier is housed completely in a box so small that it can replace the usual double-prong plug on the headset cord.

No external connections are necessary, and no alterations of the switchboard circuit are required. The only evidence of the presence of the amplifier is the small black box at the end of the headset cord. The gain is adjustable up to a maximum of about 12 db by means of a small control knob.

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Q. What rules should be observed in the replacement of crossarms on the overhaul of an open wire line?

A. Generally speaking, crossarms are replaced when they are split, rotted or broken so that they will no longer hold the pins properly. Some operating companies consider that if crossarms satisfactorily carry the strain placed on them, and appear to have at least two years of life, they may be left in service economically.

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Working With People

By GILBERT R. BRACKETT

PART III

A GOOD LEADER should know and understand each one of the individuals he is supervising. But, before he can expect to understand others, he should thoroughly know and understand himself—the hardest person he'll ever have to understand.

Often we overestimate our abilities while at other times we underestimate what we can do. Occasionally we rise to a situation or condition and then wonder how we ever reached the logical answer we did. Once we realize our own capabilities or difficulties, we shall become more tolerant of others and we will sense the things we need to be especially careful about.

There are a number of faults we should constantly guard against.

(1) We must control our ego or vanity. We are always quick to notice this fault in others but slow to realize it when we are vain or conceited. That is why a supervisor has to be particularly careful. Those he supervises scrutinize him closely to discover the first sign of a "swelled head."

(2) We are most important in the lives of the people assigned to work under our supervision. They look upon us as persons in authority—"the boss," but let's not be "bossy." Let's not order our people to do a thing—let's ask them in such a way they will want to do it for us. They'll do a much better job if they want to do it than if they are forced to do it.

(3) We should learn to control our tempers. Employes lose respect for the person who is "always blowing his top." Try not to show anger in front of your people. If you feel your temperature is on the rise, hunt a shady spot and allow it to cool off. Never make a decision when angry or upset. Decisions made under pressures of these sorts are often wrong—and it may be too late to repent later on. Keep your emotions under control.

(4) Control your talking. Don't speak until you have all the facts and then don't talk too much or loudly. Watch out for hasty decisions that may have to be changed the next minute. They're potential dynamite and can become most embarrassing to ourselves. Inspect each question from every angle before giving an answer.

(5) Watch your personal likes and dislikes. Treat all your people the same. Nothing will create trouble for you quicker than having personal favorites.

(5) You should not be over-critical or petty. Neither should you be too soft, failing to act when it is necessary, or letting some individuals get by with something just because you find them difficult to handle.

(7) Sarcasm and unkind remarks are unnecessary. You can get better results with kindness and well-meant, helpful suggestions.

(8) Even as you read these paragraphs you are forming opinions of your people in regard to their ability, training requirements, personality, etc. But don't forget: your people form opinions of you, too. You should be interested in what they think of you. Are they sure they know you? Do they look up to you as a friendly, helpful supervisor? Are they confident you are sincerely interested in them as people?

Don't become entirely satisfied with your performance as a supervisor—the moment you do, you'll stop trying. Set your sights on a goal that is just above what you are now accomplishing—still be reaching for success.

Let's Also Know Our People

The better we know each individual under our supervision, the easier it will be to give them help to do their job well. In addition to having the desire to help each of our people do a good job, we should want them to get all the personal satisfaction they can out of their work.

But how can we really get to know each one of our people? Through observation and study, of course. Have in mind a certain person under your supervision and ask yourself these questions:

What do I think of him?
What kind of a job is he doing?
What can I do to help him do a better job?
Do I really know him very well?
What are the things about the job he doesn't like?
What are his outside interests and hobbies?
About what subjects is he sensitive?
Has he any qualities, abilities, possessions, etc., of which he is proud?

It is very important that we study our people in a manner that is fair to all. We should make each one feel that he is given full credit for what he accomplishes and that we are doing all we can to help him do a better job.

If we are to find out the training and development needs of our people, we must study or observe them. We are not looking for their faults, we are only trying to guide them, to encourage them and improve their sense of security by letting them know how they stand. They need to know that they have been recognized and not overlooked.

There are four common mistakes that are apt to creep into our judgment of our people:

(1) We may fail to recognize the really important things.

(2) We might have a tendency to judge a condition or problem in the light of our general opinion of the person.

(3) We may fail to ask our supervisor his opinion of the person. Different people have different standards for judging people—what is cooperation to one might be considered lack of initiative by another.

(4) We might let our prejudices, our particular likes or dislikes for certain traits, influence our judgment.

There are ways of guarding against mistakes in rating or judging people. We can be sure the person has the proper training to know his job before we start judging his performance. We can avoid using the "perfect example" as a standard; rather, compare the individual with the average. And above all, we must never let our opinion of today's work be influenced by the person's past mistakes.

But what can we do that we are not doing at the moment to develop our people toward a better job, so that each individual will feel that he is being recognized and is not being overlooked?

We can determine what traits are desirable to do the job best.

We can very carefully consider how each person rates with respect to each trait.

We can talk over with the person his status in regard to certain traits and encourage him to help his own development.

XUM

But why is it important for a person to know how we feel about his work? Because it will allow him to differentiate between his good points and his weak points and eliminate any feeling of being overlooked. It gives him an opportunity to express his views regarding his job.

It is very, very important that we take seriously the matter of judging people. We can start by looking for what is good in the person. Comment on some of the good things we see. But we should be slow in offering suggestions until we know the person, the work he is to do and consider thoroughly the best way to help him.

We can't expect every one of our people to be top performers, but we should be alert to discover as much as possible about all persons assigned to us so we can determine what we can do to help them.

Every finger print is different and so it is with the owners of the prints—they are different, too, all of them. No two people will see the same situation in the same light. But if we know and understand our people, treat each one as an individual, we will find that our job will be much easier and more pleasant.

When our people feel that we know and understand them as individuals, realize that we are trying to help them enjoy their work, to make it more pleasant for them, they will welcome our help. Once they are sure of our purpose, they will not resent our questions or feel that we are prying into their personal affairs.

The average person is not hard to understand, but occasionally we have the one who is intelligent but mischievous. He annoys others. He is a trial, seemingly taking pleasure in making things difficult. He does something wrong deliberately or might even be impertinent.

How would we go about understanding such a fellow?

First, we would study his good points, find out what he responds to favorably. If he liked a particular person, we would ask him why. We'd be very patient with him while we were studying him. How well we can predict how a person will react to certain conditions or requests will depend almost entirely on how well we know the person and understand the condition.

We must repeat: Each person is an individual who may react differently from any other person under our supervision. Sometimes he may vary in his reaction to the same condition, depending on his mood. But if we try, we can find ways to keep him interested, make him happy in his work and take pride in doing a good job.

REA 1954 Telephone Loans to Benefit 126,000 Subscribers

The U. S. Department of Agriculture announced on Jan. 14 that more than 126,000 farms and other rural establishments will get initial or improved telephone service as the result of loans made by the Rural Electrification Administration during the year ended Dec. 31, 1954.

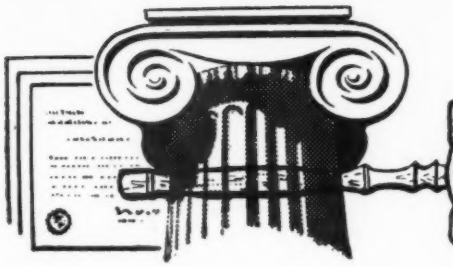
Gross telephone loans for 1954 totaled $66,346,000—more than 16 million dollars above the $50,112,000 approved in 1953. Loans in the last 12 months were greater than in any other calendar year of the agency's program to improve and extend telephone service in rural areas.

Since the first telephone loan at the beginning of 1950, REA has made net loans of about 208 million dollars. These loans will enable 309 borrowers to provide improved service for 236,000 present subscribers and service for the first time to 211,000 additional farms and other rural establishments. Almost 40 per cent of the approved loans has already been advanced to telephone companies and cooperative associations in accordance with their construction plans.

The number and amount of REA telephone loans in each state during calendar year 1954 is shown in the following table, together with the number of rural residents that will benefit from the loans:

1954 Telephone Loan Program

	No. of Loans	Amount of 1954 Loans (Gross)	Subscribers To Be Served
United States	157	$66,346,000	126,666
Alabama	3	3,193,000	8,909
Arizona	1	351,000	726
Arkansas	1	294,000	598
California	1	42,000	131
Colorado	2	345,000	478
Connecticut	—	—	—
Delaware	—	—	—
Florida	1	3,602,000	7,278
Georgia	8	2,147,000	6,052
Idaho	3	1,140,000	3,165
Illinois	8	5,123,000	14,786
Indiana	9	2,391,000	5,164
Iowa	4	1,155,000	3,423
Kansas	10	3,839,000	8,284
Kentucky	5	2,611,000	5,174
Louisiana	12	2,104,000	3,036
Maine	2	599,000	1,786
Maryland	—	—	—
Massachusetts	—	—	—
Michigan	2	754,000	1,427
Minnesota	12	4,931,000	8,325
Mississippi	—	—	—
Missouri	6	4,331,000	5,660
Montana	4	2,897,000	3,999
Nebraska	1	637,000	1,244
Nevada	—	—	—
New Hampshire	—	—	—
New Jersey	1	289,000	—
New Mexico	1	215,000	—
New York	—	—	—
North Carolina	3	561,000	1,266
North Dakota	4	4,945,000	6,108
Ohio	—	—	—
Oklahoma	4	756,000	1,689
Oregon	3	338,000	557
Pennsylvania	1	114,000	301
Rhode Island	—	—	—
South Carolina	5	3,327,000	5,998
South Dakota	8	4,219,000	5,142
Tennessee	4	2,084,000	4,229
Texas	9	1,519,000	742
Utah	1	50,000	54
Vermont	—	—	—
Virginia	3	1,204,000	2,530
Washington	5	1,259,000	2,703
West Virginia	1	347,000	791
Wisconsin	6	1,757,000	3,745
Wyoming	2	309,000	456
Alaska	1	567,000	710
Hawaii	—	—	—
Puerto Rico	—	—	—



Courts and Commissions

New York Company Seeks Ruling On Foreign Exchange Service

The New York Public Service Commission has suspended a proposal by Cazenovia Telephone Corp. to revise its rates for intercompany foreign exchange service. There will be a public hearing on Feb. 2.

The company had proposed to introduce a new schedule of flat mileage rates to be charged to residents of its service area who elected to receive service from a company serving adjacent territory. This would be substituted for a pro rata schedule which now applies. Payments so received are divided between the home company and the one rendering the actual service on the basis of facilities furnished and service rendered by each.

The new intercompany foreign exchange service rate, which Cazenovia Telephone proposed, calls for a monthly payment of 90 cents on individual lines for each tenth of a mile between the intercompany boundary and the subscriber's premises, and of 30 cents for each tenth of a mile for party lines, plus a $1.00 monthly surcharge to cover cooperative administration costs involved in handling the special service. Only a very few subscribers receive this type of service.

The rates proposed by Cazenovia Telephone for the intercompany foreign exchange service have been advanced as a "test case" to establish the uniformity in charges for such service and were evolved in cooperation with representatives of other Independent telephone companies in the state, through the New York State Telephone Association.

V V

Two Minnesota Companies Secure Go-Ahead on Rate Schedules

Pioneer Telephone Co. of Carver County on Dec. 29 was granted authority to increase rates at all its exchanges by the Minnesota Railroad & Warehouse Commission.

Pioneer company raises, effective upon installation of automatic equipment at Victoria and Chaska, and establishment of extended area service between Victoria and Waconia, will increase operating revenues from $153,487 to $163,890 and turn a net income of $31,660 to $40,062, a return of 5.8 per cent on a plant original cost of $690,000.

On Dec. 28, the commission also authorized the Freeborn Telephone Co. to establish a schedule of rates and charges for the company, which has entered into an agreement with the owner of the Freeborn Telephone Exchange Co. for the right to serve the territory now being served by the exchange. Upon completion of the automatic exchange, the new Freeborn company will serve about 79 local and 96 rural stations. Authorized rates will produce operating revenue of $9,784 and net income of $2,898 for a return of 5.25 per cent on a plant original cost of $55,161.

V V

Northwestern Bell Authorized To Establish Extended Service

The Northwestern Bell Telephone Co. has been authorized by the Nebraska Railway Commission to establish two-way extended service between its Ravenna exchange and the Independent company exchange of Hazard owned by the Hazard Telephone Co. The order is effective with the conversion of the Ravenna exchange to dial operation on Jan. 24.

At the present time extended exchange service is furnished from Hazard to Ravenna and long distance service from Ravenna to Hazard. Ravenna is in Group "C" of exchange rates and will remain there under the new arrangement. The company estimates it will sustain an annual loss of toll revenue of $444 which will be offset to some extent by a saving in operating expense and other considerations.

At present, toll calls are routed from Ravenna to Grand Island to Hazard. The extended service arrangement will eliminate the necessity of such routing.

V V

Ill. Company Asks Loan, Rate OK

The Illinois Commerce Commission on Jan. 18 heard the combined request of Eastern Illinois Telephone Co., Rantoul, for an $88,764 annual rate increase and for approval to obtain a loan in order to finance its expansion and conversion program.

Georgia Commission Approves Increases for Two Companies

Rate increases for the South Georgia Telephone Co., Ludowici, and the Wilkinson County Telephone Co., Inc., Irwinton, recently were authorized by the Georgia Public Service Commission. A loan and a stock issue by the Wilkinson County company also were approved.

In approving the South Georgia company's rate increase, which is applicable upon conversion of the Ludowici exchange to dial operation, the commission said:

"According to the evidence it appears that the company's gross investment in telephone plant at Ludowici before conversion amounted to $29,342. Additions due to conversion are shown to be $42,214 and retirements are shown to be $15,195 resulting in gross investment upon conversion of $56,361.

Reserve for depreciation upon conversion and after giving effect to retirements of present plant is shown to be $2,734. It therefore appears that reserve for depreciation before conversion amounted to $17,929 and net plant before conversion amounted to $11,413.

"Net revenue of $3,862 per annum appears adequate to provide a reasonable return on investment in plant and equipment."

The following are the old and the approved dial rates:

	Old	*Dial*
One-party, business	$3.50	$5.50
Two-party, business	3.00	4.50
Four-party, business		3.50
One-party, residence	2.50	3.25
Two-party, residence	2.00	2.75
Four-party, residence		2.25
Rural multi-party		
Business, 0-2 miles	2.50	3.75
Residence, 0-2 miles	2.00	2.75
For each additional 2 miles or fraction beyond the base rate area		.25

The South Georgia company expects to serve 212 stations from its Ludowici exchange when conversion is complete.

Estimating the Wilkinson County company's total operating revenues, the commission found that upon completion of its conversion and expansion program this will be about $44,994, and net revenues, $9,135. The commission indicated this would be a return of 6.4 per cent on a rate base of $141,757.

(Please turn to page 28)

XUM

GENERAL TELEPHONE COMPANY
OF CALIFORNIA
1314 SEVENTH STREET
SANTA MONICA, CALIFORNIA

June 21, 1954

Mr. H. F. Lello, Executive Vice President
Automatic Electric Company
1033 West Van Buren Street
Chicago 7, Illinois

Dear Mr. Lello

On May 29 and 30, The Pacific Telephone and Telegraph Company cut their Los Angeles 4A X-Bar Toll Switching System into service.

This system connects with 30 of our dial central offices in the Southern California area all of which were equipped with new intertoll dialing equipment designed by your engineers to meet the varied requirements imposed by several varieties of toll trains installed in our offices.

We believe you and your engineers will be pleased to know that the equipment provided worked satisfactorily at all installations and required no major modifications or exceptional adjusting effort to meet the stringent pulsing and supervisory requirements imposed by the 4A X-Bar Toll Switching System.

This was probably the largest conversion of this type in which an independent telephone company will be involved and we wish to express our appreciation for the excellent design work of your engineers and the splendid cooperation of your people during the several years of negotiation in which these design features were being formulated.

Yours very truly

Dean M. Barnes

DEAN M. BARNES
Operating Vice President

Successful, trouble-free, economical conversion to Nationwide Toll Dialing—you're sure of it with Automatic Electric! Here's Automatic's sound program.

Proof

←

of the soundness of Automatic's program is shown at the left—an unsolicited, enthusiastic letter from Mr. D. M. Barnes, operating vice president, General Telephone Company of California—one of Automatic's long list of satisfied customers.

It pays to consult Automatic on Nationwide Toll Dialing!

Will *your* exchange give instant, top-grade service the moment you tie in with Nationwide Toll Dialing? Have you solved the technical problems it presents? Are you making adequate preparations for the increased, profitable toll traffic it will bring you?

You'll be able to say "yes" to all of these urgent questions if you follow Automatic's program:

1. **Insure high-grade transmission,** proper supervision, and "right of way" to incoming toll calls by installing Strowger Automatic Toll Train Switches.
2. **Save buying excess switches** when converting exchanges requiring less than seven digits to the required seven-digit numbering plan. Install Strowger Automatic drop-back "2-5" selectors.
3. **Insure dependable toll dialing** for your subscribers. Know exactly what facilities you'll need on trunks going out to Bell exchanges. Consult with your connecting Bell company and with us.

This program will give you the same satisfactory operating results reported by Mr. Barnes. Consult Automatic Electric today!

AUTOMATIC ELECTRIC

Originators and Developers of the Strowger Step-by-Step "Director" for Register-Sender-Translator Operation . . . Machine Switching Automatic Dial Systems

Makers of Telephone, Signaling and Communication Apparatus • Electrical Engineers, Designers and Consultants

Distributors in U. S. and Possessions: AUTOMATIC ELECTRIC SALES CORPORATION
Export Distributors: International Automatic Electric Corporation
1033 West Van Buren Street, Chicago 7, U. S. A.

XUM

The rate base was established by the commission as follows:

"According to the evidence and testimony, gross plant and equipment as at May 31, 1954, amounted to $56,835 and the reserve for depreciation amounted to $8,684, resulting in net plant as at May 31, 1954, of $48,151.

"It was alleged that plant additions from the application of loan funds now available would amount to $90,000 and that retirements of plant and equipment in connection with the conversion and expansion program would amount to $4,850 resulting in gross plant upon conversion of $141,985.

After giving effect to retirements of $4,850 in connection with the conversion program, the reserve depreciation would amount to $3,834 and net plant upon conversion would be $138,151. To this amount was added $1,124 for materials and supplies, and $2,482 for cash working capital resulting in a pro forma rate base of $141,757.

"It was further alleged that present value of plant and equipment was a reasonable representation of original cost."

Rates approved for the Wilkinson company's four exchanges, upon conversion of each to dial service, are the following:

	Gordon	*Irwinton McIntyre*	*Toomsboro*
One-party, business	$5.00	$6.00	$6.00
Two-party, business	4.00	5.00	5.00
Four-party, business	3.00	4.00	4.00
One-party, residence	3.50	3.75	3.75
Two-party, residence	3.00	3.25	3.25
Four-party, residence	2.50	2.75	2.75
Rural multi-party			
Business	3.50	3.75	3.75
Residence	2.50	2.75	2.75
For each additional 2 miles or fraction thereof	.25	.25	.25

All exchanges:
Mileage charge on party line urban service outside base rate area:
Business or residence per ¼-mile of line beyond base rate area:
One-party $0.40
Two-party ..... .20
Four-party ..... .10

The company expects to serve 562 subscribers after completion of the expansion and automatic cut-over. This compares with 348 presently served.

The Wilkinson County company also was authorized to secure a loan from Stromberg-Carlson Co. in the amount of $100,000, payable within 20 years from the date of the final note when and as issued with respect to the loan.

The company was further authorized to issue a total of 450 shares of $100 per share par value common stock in blocks of 150 shares each to R. W. Culpepper, Sr., W. L. Council and George H. Carswell in exchange for their partnership equity in Wilkinson County Telephone Co.

V V

>> More than two-fifths of the telephones in the United States are in communities with less than 50,000 population.

Carolina T&T Asks Rehearing In Stock Price Case

In what apparently is a forerunner to an appeal to the courts again, the Carolina Telephone & Telegraph Co., Tarboro, on Jan. 17 asked the North Carolina Utilities Commission for a rehearing of its recent order, which set the price per share of new stock the company seeks to issue higher than the amount desired by the company. Carolina T&T states that the order fixing the price was unsupported by evidence and contrary to law (TELEPHONY, Jan. 8, p. 38).

The petition involves a Dec. 28 order of the commission authorizing the company to issue 66,640 additional shares of $100 par value stock on condition that it charge not less than $125 a share for the stock. The company seeks to issue it at the $100 par figure.

In its petition, the company contended that the case should be reconsidered because there is no state statute which allows the commission to require that stock offered to stockholders under preemptive rights should be offered at a price greater than par.

It is contended further that the commission order violated the rights of the stockholders to subscribe to the new issue at par; that the commission "failed to make any specific or definite finding of fact" as to why it had concluded a price of not less than $125 was necessary; and that it had erred in approving the sale of stock conditional upon the company charging $125, stating that "the record does not contain any findings that would make such a condition necessary or appropriate."

"The record," the company continued, "does not contain any evidence to support any findings that the public interest required the offer of the stock to the stockholders in excess of par. . . . There is nothing in the record to support any conclusion that the rate-payers can or will be called upon to provide funds sufficient to pay any given or fixed dividend."

It was contended further that the commission statement that a higher stock price would mean more money for the company for improving service is not a reason because state law gives the commission no authority to require a company to raise more money than a company sets out in its stock application.

More than a year ago the company asked the commission for permission to issue 33,320 shares of additional stock at par value, but the commission set the price at $115 a share, and the company appealed to the North Carolina Supreme Court, which remanded the case to the commission. The company then doubled the amount of requested stock and the commission raised its price figure to $125 a share, taking the position that since the company needs money for expansion and its stock is worth more than par on the open market, it should try to get a price nearer the market value.

The company contends that it has a standing policy of issuing stock to its stockholders at par under present preemptive rights and that any changes in the policy would weaken both the price of its stock and its ability to sell stock in the future. It had planned to distribute the new stock to its stockholders at a rate of five new shares for each two shares now held.

The commission order did not affect the company's right to sell to stockholders.

The commission is expected to reject the petition for rehearing and it is expected an appeal will be taken by the company to the courts again.

V V

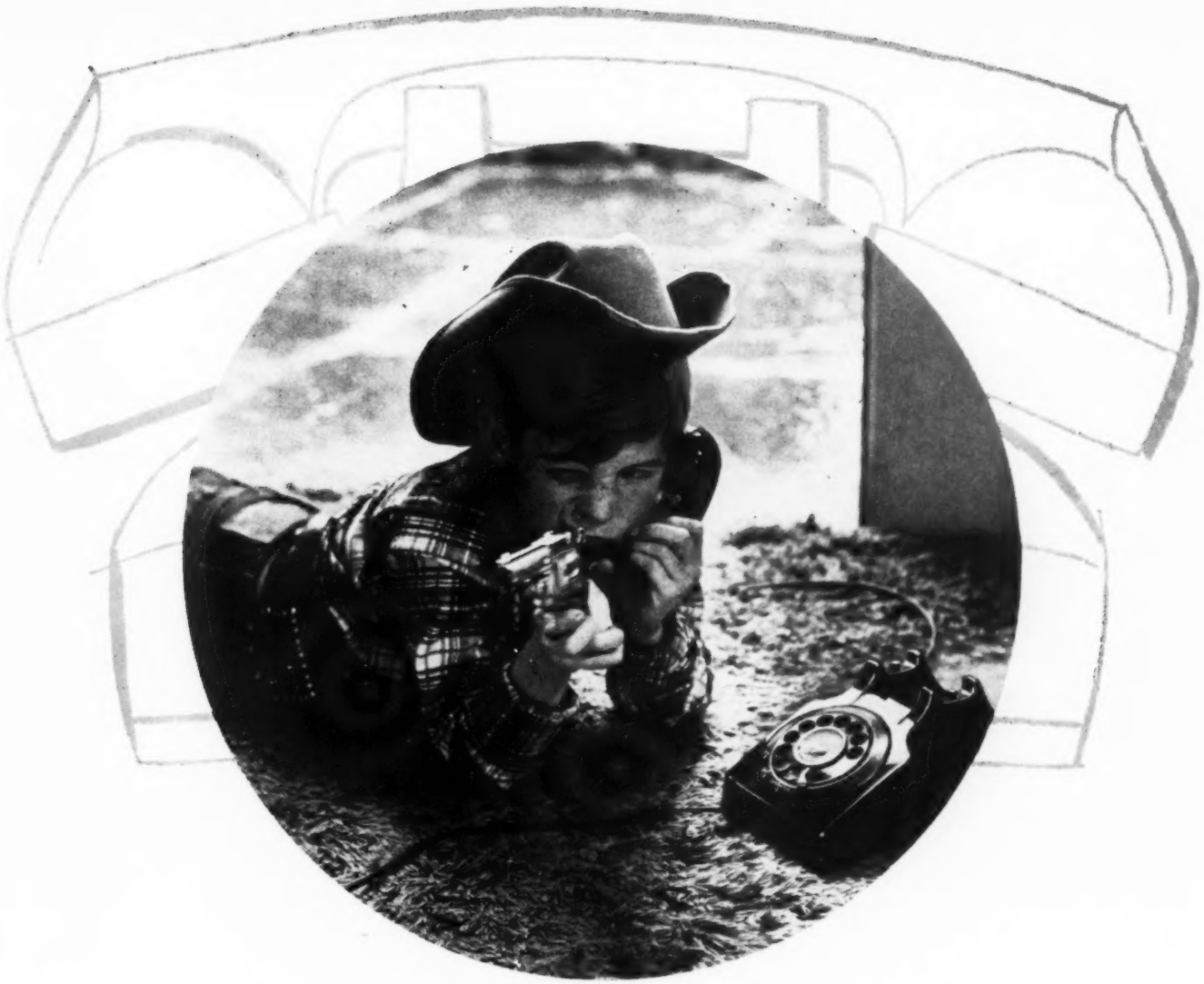
Three Tariff Amendments Filed With New York Commission

On Jan. 20, the New York Public Service Commission announced the following cases as having been filed:

(1) A tariff amendment by the Chautauqua & Erie Telephone Corp., Westfield, asking to increase rates, effective Feb. 1. Because of recent wage increases, the introduction of a pension

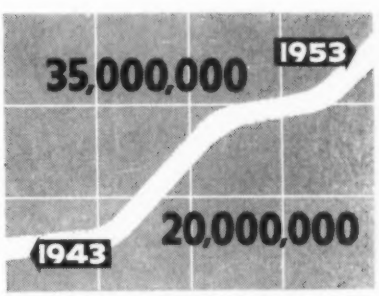
(Please turn to page 32)

On the page at the right is the tenth United States Independent Telephone Association advertisement in its national campaign to publicize the Independent telephone industry. The ad will appear in the Feb. 7 issue of *Time* and the Feb. 11 issue of *U. S. News & World Report*.



As American as cowboys 'n Indians

That's the spirit of enterprise that sparks the Independent Telephone Industry!



AVERAGE LOCAL CALLS PER DAY
for Independent Telephone Companies

Enterprise . . . initiative . . . woven into our way of life, and into the spirit of Independents! Throughout forty-seven states, Hawaii, Alaska and Puerto Rico, Independent Telephone Companies have spun their lines—adding nine million telephones to the nation's total. Their stake in first-rate telephone service is big—more than 1½ billion dollars. *Doubled* in the past ten years. Continuing to grow under our American system of reward to the enterprising.

USITA

• *Telephone instrument in photograph above manufactured by The North Electric Manufacturing Company, Galion, Ohio*

United States Independent Telephone Association

Pennsylvania Building : Washington, D. C.

XUM

We doubled the load on two old iron wires with LYNCH CARRIER EQUIPMENT ...recommended by Graybar

SAYS:
FRANCIS N. WILLKOM,
GENERAL MANAGER
FARMERS TELEPHONE COMPANY
LANCASTER, WISCONSIN

"We've come a long way since the 1890's when, to become a subscriber, a person had to pay ten dollars or build a mile of line . . . and switching dues were only a penny.

"Today, though we provide modern telephone facilities for more than 2600 subscribers, we're still a small company and have to rely on our suppliers for help and information.

"This is one of the many reasons why we've been doing business with Graybar for over forty years. Not being able to tie up a lot of capital in supplies and inventory, we necessarily depend on the Graybar warehouse system. Graybar always provides exactly *what* we need — *when* we need it.

"Then again, I can't say too much about Graybar personnel. Graybar Telephone Specialists know their business and are wonderful to do business with. They keep us up-to-date on new equipment and techniques and their suggestions are often invaluable. The Lynch carrier unit we installed in February is a sample of a Graybar suggestion that really paid off. Better yet — Graybar assistance in these out-of-the-ordinary problems is freely given, there's never any feeling of obligation on our part.

"This kind of service and cooperation really mean a lot to a small independent like the Farmers Telephone Company."

You too can benefit from Graybar's services! Pole line supplies for maintenance and new construction . . . exchange and office equipment . . . linemen's tools and safety equipment—all are conveniently available from Graybar warehouses located near you. Call us for any telephone need. Like you, Graybar is proud of its independent status and the fact that it is owned and operated solely by its operating and retired employees. 501-231

Wire Chief Lawrence Esser personally installed this Lynch B-28 carrier system on an 11-mile iron wire circuit between Cassville (dial) exchange and the Glen Haven (magneto) exchange. There were no difficulties experienced in terminating units and, to date, maintenance problems have been nil. In spite of the iron wires, the system has operated so well that before the two circuits were balanced, subscribers were asking to have their calls placed on the superior carrier circuit. Present plans are to install an additional Lynch carrier on an equally overloaded 18-mile circuit between Potosi and Cassville.

Out in the field, Manager Willkom and Wire Chief Esser check progress on the installation of a new circuit. For new work like this or everyday maintenance, both Willkom and Esser recognize the importance of quality tools and supplies . . . and the respect line crews have for the well-known products distributed nationally by Graybar.

This reproduction of an old photograph taken in the 1890's shows the wife of the founder of Farmers Telephone at the original handmade switchboard. The company, today, employs 24 persons and efficiently serves the southwest portion of Grant County. Records show that Farmers Telephone has been a customer of Graybar and its parent company, Western Electric, for well over 40 years.

Here Graybar Telephone Specialty Salesman Sabo and Manager Willkom discuss a list of telephone supplies — ordered from Graybar. Like many independents, Farmers Telephone looks to its suppliers for technical help and information. In fact, it was during a similar conversation over a cup of coffee that disclosed the problem of an overloaded circuit and led to Sabo's suggestion of a trial of the Lynch equipment.

Call Graybar first for...

GRAYBAR ELECTRIC CO., INC.
Executive Offices:
Graybar Building, New York 17, N.Y.

GRAYBAR QUALITY *Everything Electrical*

IN OVER 110 PRINCIPAL CITIES

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plan and increases in costs of materials and supplies, it is estimated that the company's operating expense for 1955 will approximate $325,000, or about $87,000 more than in 1953.

The company said the new rates would produce about $53,770 additional annual revenue to partially offset its increased operating expenses and enable it to continue adequate service to its subscribers. It serves about 5,450 stations through a manual exchange at Westfield, and five automatic offices at Mayville, Sherman, Findley Lake, Brocton and Ripley.

(2) A tariff amendment filed by Seneca-Gorham Telephone Corp., designed to increase rates to subscribers of its Honeoye exchange, effective Feb. 1. No changes in rates to subscribers served by its Stanley, Rushville and Holcomb manual exchanges are involved.

The company serves about 1,800 stations through the three manual exchanges and about 200 more through its automatic exchange at Honeoye. Automatic equipment at that central office had an inadequate capacity which resulted in poor service, it was stated. To overcome this difficulty, the company has just spent $57,000 to install more modern equipment at that exchange, thereby establishing the basis for higher rates, the commission noted.

(3) A tariff amendment filed by East Pembroke Telephone Co. designed to increase rates by an estimated $5,700, effective Feb. 1. This is the first change in company rates since July 1, 1946.

In filing its new tariff, the company reported that its operating expenses last year increased more than $5,000 over those of 1953, and that they are expected to rise by another $2,600 during 1955. It also reported that its operations in 1954 resulted in a loss of more than $2,000, largely due to wage increases to employes, and that additional revenues were needed if it were to be able to continue to give improved service.

The company serves about 500 stations in East Pembroke, West Batavia, North Pembroke, Indian Falls and Basom, all in Genesee County. During the past year it has been engaged in the rehabilitation of its outside plant so as to provide customers with improved service.

V V

Three Cases Scheduled Before Wisconsin Commission

On Jan. 24, the Wisconsin Public Service Commission was to hear the application of Herman F. Abelt, doing business as the LaFarge Telephone Co., for authority to discontinue the Bloomingdale exchange and to transfer subscribers to the LaFarge exchange. Other cases scheduled to be heard before the commission were:

The application of Wittenberg Telephone Co. on Jan. 27 to increase rates, and the application of the Price County Telephone Co. on Jan. 28 also for a rate increase.

V V

Kansas Mutual Seeks Approval To Discontinue Serving

The Kansas Corporation Commission on Jan. 19 set Jan. 31 for hearing applications relative to telephone service at and near Wakefield.

L. Duane Walrafen, commission chief engineer, explained that the Farmers Mutual Telephone Co., Manchester, which has served the area, is asking that it be allowed to discontinue and the new Wakefield Telephone Co. is requesting permission to take over the territory.

Mr. Walrafen said the mutual company had been formed years ago as a combination of 12 exchanges.

"Practically the same management has formed the new company," he explained.

V V

California Company Registers $12,000,000 Bond Issue

General Telephone Co. of California, Santa Monica, put 12 million dollars of 30-year first mortgage bonds into registration with the Securities & Exchange Commission, it was reported Jan. 12.

Proceeds will be used for property additions and to pay off short-term bank loans of the company.

In October, 1952, the firm sold 10 million dollars of 3¾ per cent first mortgage bonds at a net interest cost of 3.635 per cent.

V V

North Dakota Commission Authorizes Rate Increase

The North Dakota Public Service Commission recently authorized the Edinburg & Gardar Telephone Co., Edinburg, to increase its rates.

The company presently furnishes service for 21 business, 63 residence and 158 rural subscribers, as well as switching service for 42 rural subscribers.

Company officials testified they operated at a loss of $1,633 for the first eleven months of 1954. They said the proposed new rates would increase their gross operating revenue by approximately $2,000.

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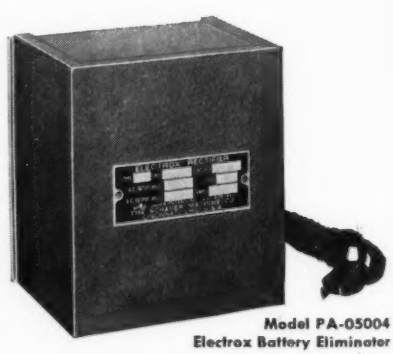

Model PA-05004
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Designed specifically for the Operator's Circuit on Magneto Switchboards, the PA-05004 type illustrated guarantees current even if your AC fails!

When operating from 110 volt, 60 cycle lighting circuit, it delivers a constant, humless direct current. If the alternating current supply fails, a built-in Power-off Relay automatically transfers the operator's circuit to stand-by dry cells.

Other models available for Lamp Signal (PBX) and Automatic (PAX) systems. Products of Rectifier Division, Schauer Manufacturing Corp.

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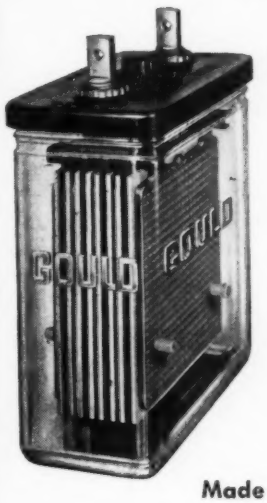

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For long life and uniform dependable service, no other telephone battery equals the Gould Planté. It has rolled up amazing performance records, remaining in active full-float service for 20 years, 30 years and longer!

In the Planté, *all* of each positive plate is pure lead, containing *no* antimonial impurities. Thus, Gould has eliminated the primary cause of self-discharge, capacity losses and shortened battery life. Planté batteries float at constant voltage and maintain rated capacity all their life. Because they almost never need service, maintenance is negligible. If you would cut battery costs to a minimum, choose Planté.

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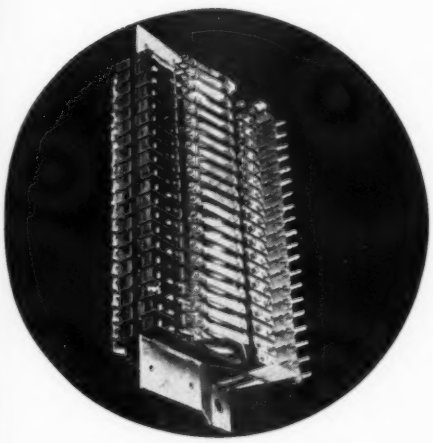

cook no. 3800

central office protector

Combines cable termination with protection of central office personnel and equipment against high potentials and sneak currents. In operation, it opens the switchboard circuit, grounds the outside line, and operates an alarm circuit. Note these construction and operating features:

1. Provides for temporary disconnect.
2. Self-soldering, low-resistance heat coils easily reset after operation without changing, reversing or re-soldering coils.
3. Line and switchboard connections on opposite sides of protectors.
4. Steel mounting plate for maximum strength.
5. Unit dischargers, consisting of two carbons, separated by acetate dielectric cemented together, permanently grounds the outside line under continuous discharge.
6. Easily tested without removing heat coil; withdrawal of test plug leaves protector in operating condition.

standard or extended range

Stromberg-Carlson "1500" telephones

look exactly alike!

A real boon to you in those circumstances where you have to "swap" instruments between subscribers. Both persons—the one who gets the standard phone and the one who gets the "W" type extended range for normal transmission over long-loop lines—will see identical styles. Only *you* know which is which. It's an inventory saving and good public relations.

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Babson Urges Telephone Investment; Praises Independent Companies

IN A syndicated newspaper column, Roger W. Babson, noted economist, praised the telephone industry, as one of the fastest growing businesses and advised his readers to invest in their local telephone companies, whether they be Bell or Independent.

Much of his comment was devoted to the progress of Independent companies and manufacturers, stating that smaller companies should be given encouragement (1) for the good of the nation and (2) because most new improvements come through smaller companies.

His statement, in part, follows:

"Most readers of my column look at times for something in which to invest. It never occurs to them that there may be good local investments under their own noses. They want to invest in some big company and send their money to Wall Street.

"With the exception of your local bank and certain chain stores, the telephone company which operates in your territory is probably your best investment, considering safety, income, and possibility for growth. The purpose of this column today is to praise the entire telephone industry, which is one of the fastest growing of all industries.

"If you live in Bell territory, then purchase stock of your local Bell company or of the big American Telephone & Telegraph Co. . . . If you do not live in Bell territory, then consider the stock of your Independent telephone system. . . .

"I am especially interested in all Independents, believing the future of America depends upon encouraging the independents in every line of business. Too many big companies will lead us to socialism. Investors are "cutting their own throats" by buying only the "blue-chip" stocks, or the 30 Dow-Jones Industrials. We should give more encouragement to smaller companies—first, for the good of the nation, and secondly, because most new improvements come through the smaller companies.

"The first automatic telephone system was installed by a La Porte, Ind., Independent. The first dial system was introduced by an Independent. The first handset telephone and selective ringing was introduced by the Independents. Bigness encourages smugness and bureaucracy. Had it not been for the fighting independents in every line of business, we would not have the many conveniences which we have today. Yes, and prices for everything would be higher and wages lower.

"The incandescent lamp, the automobile, fountain pens, hearing aids, vacuum cleaners, Kodak cameras, radios, flashlights, paper towels, electric heating pads, refrigerators, irons, toasters, etc., zippers, frozen foods, powdered coffee, long-playing records, colored movies, penicillin, and many other household blessings were invented and first marketed by small independent companies. Then the big companies came along to swallow up the markets.

"Furthermore, so long as the advertising rates by magazines, radio, and TV are the same for a small pioneering company as for a great big company, so long will the independents be unfairly handicapped, both in selling and in raising capital. One final thought:

"Although the big Bell companies operate in most of the large cities, the Independents serve nearly twice as many communities! I am putting my money into Independents."

V V

Communications Engineering on ASME 75th Anniversary Program

Vannevar Bush, president of The Carnegie Institution of Washington, will deliver the climax address on Feb. 16 at an all-day conference devoted to the theme, "The Engineer and the World of Communications."

The meeting is sponsored by the American Society of Mechanical Engineers (ASME) and will be held in New York on the 75th anniversary of the day on which initial plans were laid for the founding of the society.

On that day—Feb. 16, 1880—some 30 of the nation's leading mechanical engineers gathered in the offices of the technical publication "American Machinist" to discuss plans for the establishment of an organization for the "collection and diffusion of definite and much-needed information." This year's meeting will carry through that theme.

Approximately 900 engineers, editors and other top-ranking persons in the communications field are expected to attend the meeting. It is the first of five national meetings scheduled in celebration of the society's 75th anniversary. Others are as follows:

Apr. 16, Stevens Institute of Technology, Hoboken, N. J., anniversary of ASME's first organization meeting, devoted to the theme, "The Engineer and the World of Education."

Apr. 18-22, Baltimore, Md., spring meeting, devoted to the theme of "The Engineer and the World of Government."

June 19-23, Boston, Mass., semi-annual meeting, devoted to the theme of "The Engineer and the World of Science."

Nov. 13-18, Chicago, Ill., annual meeting, devoted to the theme of "The Engineer and the World of Commerce and Industry."

President Requests $70,000,000 For Rural Telephones in 1956

In his budget proposals to Congress on Jan. 17, President Eisenhower requested new loan funds in the amount of $230 million for the REA programs in the fiscal year beginning July 1, 1955. He requested $160 million for rural electrification and $70 million for rural telephones.

With funds that are expected to be carried over from this fiscal year, plus expected rescissions of previous loans, the President's recommendation would make $186 million available in regular funds for rural electrification. In the event Congress does not eliminate the state allotment formula in the Rural Electrification Act, another $85 million is requested in a reserve authorization. Bills to eliminate the formula, which restricts funds available to any state, are pending in Congress. Its elimination would enable REA to carry out its established policy of meeting loan needs wherever they exist.

In his message to Congress, the President commented on the rural electrification and rural telephone programs:

"The programs of the Rural Electrification Administration have brought about great advances for rural America, and this administration will continue to make loans available to meet all legitimate needs for rural electrification and telephones.

"The need for electrification loans to provide initial connections of farm homes with central station service is much less than in earlier years. But this is more than offset by larger requirements for improvements of existing systems and for power generation. My budget recommendations, therefore, provide for a higher level of new electrification loans in 1956 than in the current fiscal year.

"The rural telephone program is still in an early stage of development. Progress is being made in resolving the various problems involved in achieving adequate telephone service in rural areas. This budget makes provision for new loan authority, sufficient to raise the level of telephone loans in 1956 to

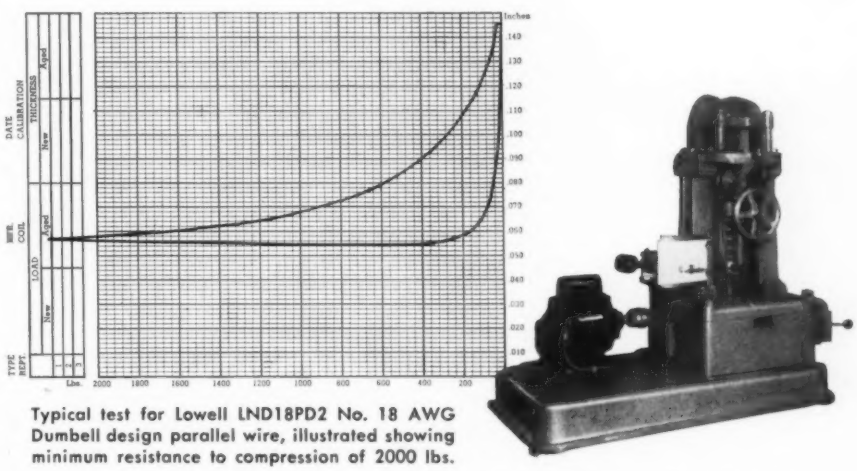
OWNERSHIP

"The desire to earn and to own is probably latent in all of us, and perhaps if our younger people knew more about the opportunities ahead for them in this great age of progress and of science that is now dawning, it would stir their ambition and ambition is prerequisite to real achievement."—CLEM D. JOHNSTON, *president, Chamber of Commerce of the United States.*

No. 1 in a series of test results on LOWELL TELEPHONE WIRES: Resistance to Compression

LOWELL TELEPHONE WIRES ARE COMPRESSION TESTED TO INSURE LONG LIFE IN SERVICE

In determining the ability of a drop wire to stand up in service, resistance to compression is a major factor. All Lowell parallel neoprene jacketed drop wire is tested in our laboratory to withstand pressure of 2000 lbs. or more before the insulation jackets are crushed. To insure this high resistance to compression, all conductors are brass flashed and special insulating and jacketing compounds are used. Since resistance to compression determines the quality of the adhesion these tests prove that Lowell Drop Wire will stand the crushing action of the P Clamp without cracking of the insulation or jacket, thus insuring dependability and long life in service.



Typical test for Lowell LND18PD2 No. 18 AWG Dumbell design parallel wire, illustrated showing minimum resistance to compression of 2000 lbs.

COMPRESSION TESTER — tests and records resistance to compression of plastic or rubber insulation jackets.

Write today for Lowell Insulated Wire Catalog or mention your wiring needs.

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80 million, which is 5 million dollars higher than in 1955."

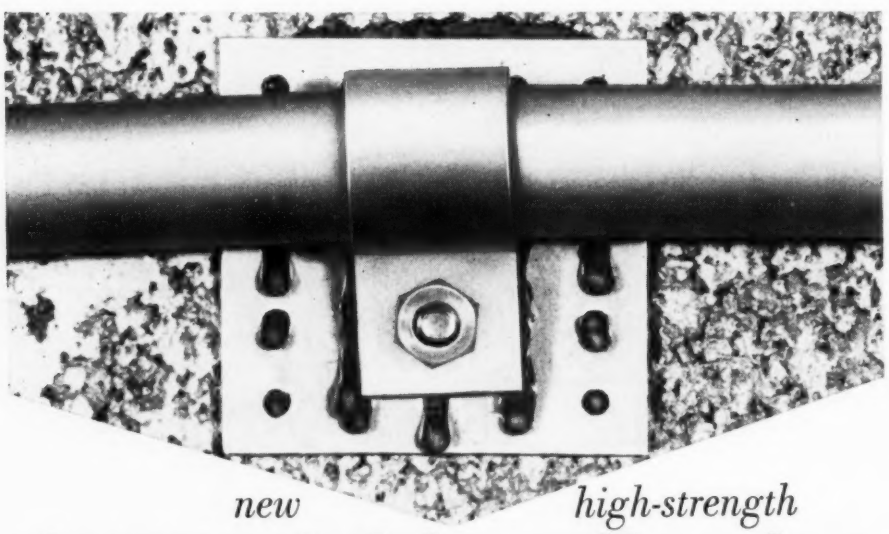
The budget disclosed that REA estimates electric loans totaling $185 million in 1956. This is $20 million above loan estimates for the current year.

An increase of $395,000 in administrative funds for REA was requested, from $7,285,000 in 1955 to $7,680,000 in 1956.

Details of funds available for the current fiscal year and those that would be available for 1956 under the budget proposal are given below:

	1955		*1956*
	Budget Request (Estimate)	*Appropriated by Congress*	*Budget Request* (Estimate)
Electric			
New authorization	$ 55,000,000	$135,000,000	$160,000,000
Funds carried over from prior year	44,919,203	46,996,190	21,096,190
Rescissions of prior year loans	5,000,000	4,100,000	4,000,000
Total Available from Regular Funds	$104,919,203	$186,096,190	$185,096,190
Reserve Authorization	35,000,000	35,000,000	35,000,000*
Total—All Funds That May Be Available	$139,919,203	$221,096,190	$220,096,190
REA estimate of loans to be made	$(100,000,000)	$(165,000,000)	$(185,000,000)
Telephone			
New authorization	$ 75,000,000	$ 75,000,000	$ 70,000,000
Funds carried over from prior year	592,500	8,158,176	10,158,176
Rescissions of prior year loans		2,000,000	
Total Available	$ 75,592,500	$ 85,158,176	$ 80,158,176
REA estimate of loans to be made	$(75,000,000)	$(75,000,000)	$(80,000,000)
Salaries and Expenses	$ 7,085,000	$ 7,285,000	$ 7,680,000

*To be available for use only if Congress does not eliminate state loan formula in RE Act.



new *high-strength*

dependable adhesive

Service-proved PLACCO 1000

Ask us for references on the long-life holding power of Placco 1000. Other advantages are elimination of drilling; ease of installation in congested areas; low cost; quick setting; adhesion to porous and non-porous surfaces; installation indoors or out.

A complete line of wire and cable hangers is available in either stainless or galvanized steel. Send for bulletins on both adhesive and hangers.

PIONEER

LINCOLN BOULEVARD **LATEX & CHEMICAL CO.** MIDDLESEX, NEW JERSEY

Signal Corps Employes Train in Industry

Five employes of the Signal Corps Supply Agency, Philadelphia, Pa., began planned on-the-job training on Jan 10 with the Radio Corp. of America, Camden, N. J., in the latest phase of a long-range program designed to promote better understanding and cooperation between the Army Signal Corps and industry. The training, conducted at no cost to the government, will last from one to three months.

The Signal Corps inaugurated the program in April, 1954, when two key civilian employes of the Signal Corps supply activity received training at the Raytheon Mfg. Co., Waltham, Mass. Under the plan, which has approval of top Army officials, selected employes and officers of the Signal Corps are furnished on-the-job training with representative communications-electronics firms.

The insight gained into the problems of industry, especially in government contract work, is expected to foster continuing good relations between the Signal Corps and industry and to make such association mutually beneficial. It is further expected that the training will enhance individual performance in assigned jobs on the part of the recipients.

Employes and officers are selected for the training on the basis of their present and potential assignments in fields which include: research and development, engineering, procurement, production, industrial mobilization, storage and distribution.

Manufacturers chosen to conduct the training are selected for their ability to provide relatively broad instruction in the desired fields in short periods of time, and their willingness to provide such training without cost to the government. Leading communications-electronics firms have been invited to participate.

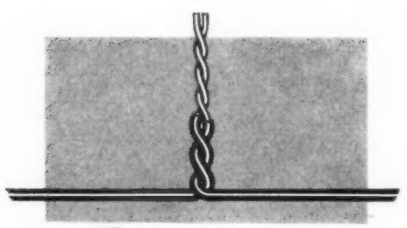
The response of industry to the program has been most favorable, the Signal Corps reports. All of the manufacturers who were initially contacted have demonstrated wholehearted support and cooperation in making the program a success to date.

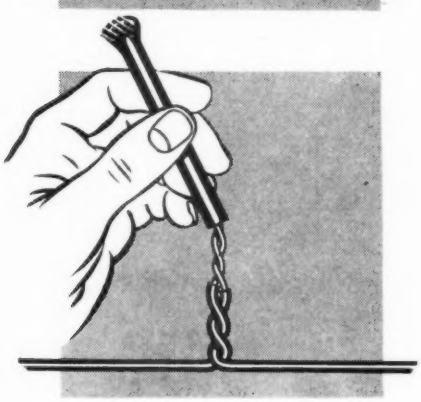
V V

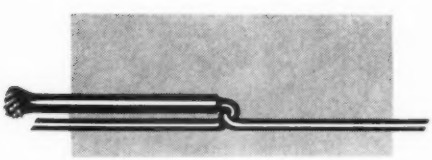
John H. Agee Marries

John H. Agee, formerly vice president and general manager of The Lincoln (Neb.) Telephone & Telegraph Co., was married on Jan. 15 at San Francisco. Mrs. Agee is the former Mrs. George Lee of Lincoln, Neb. Mr. and Mrs. Agee are presently enjoying an extended trip to the Hawaiian islands.

Make Splices MOISTUREPROOF, WATERPROOF ... from inside out!







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(Patent applied for)

Now . . . soon after the introduction of SUPERIOR all-plastic sheathed and insulated cable the new SUPERIOR "Super-Splice." The plastic device is "factory-filled" with a positive sealing agent which maintains the same consistency at both very high and very low temperatures.

This vastly improved method of splicing is the result of extensive research and has been subjected to exhaustive underwater tests.

Low cost "Super-Splice" is simple, safe and sure and makes the individual conductor splice permanently as good as the cable . . . from inside out!

To be sure . . . buy SUPERIOR "Super-Splice." Make your splices moistureproof and waterproof.

For easy identification, "Super-Splice" is manufactured in different colors for different diameters.

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A. F. ADAMS

F. S. SPRING

T. S. GARY

Gary Companies Announce Executive Changes

The Gary Group has announced changes in the executive organization in several of its companies.

A. F. Adams was elected honorary chairman of the board of the following companies, at boards of directors meetings on Jan. 18, in recognition of his service of more than 50 years with the companies and the telephone industry: Theodore Gary & Co.; Telephone Bond & Share Co.; Associated Telephone & Telegraph Co.; Automatic Electric Co.; International Automatic Electric Corp., and Automatic Electric Sales Corp.

Other changes are as follows:

F. S. Spring was elected chairman of the board and Theodore S. Gary was elected president of Theodore Gary & Co.

Mr. Spring, formerly president of Associated Telephone & Telegraph Co., also was elected chairman of the board of that company and A. E. Carlson, formerly executive vice president, was elected president.

Mr. Gary also was elected chairman of the boards of both International Automatic Electric Corp., and Automatic Electric Sales Corp.

V V

OBITUARIES

CHARLES ERNEST SMITH, 68, died on Dec. 20 in Morenci, O., after several months' illness. Mr. Smith spent his entire business life as a telephone manager. He was for 30 years manager and president of the Morenci Home Telephone Co., then about 10 years ago, became district manager of a group of exchanges for the Ohio Central Telephone Corp. He retired in 1952.

Mr. Smith was a life member of the Independent Telephone Pioneers of America, a life member of the Telephone Service Pioneers of Wooster.

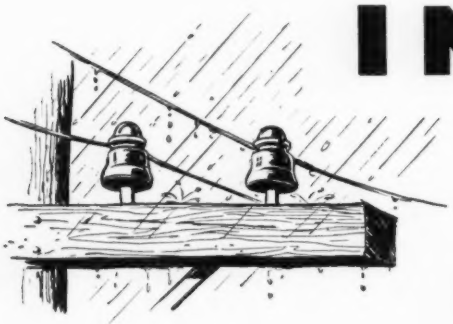
He is survived by his widow, Edith; three sons, Robert, Charles and Harold; a sister, Mrs. Nellie Spring, of Wauseon, and four grandchildren.

* * *

ROSE FANKHAUSER, 70, retired employe of The Lincoln (Neb.) Telephone & Telegraph Co., died of a heart attack at her home at Humboldt, Neb., on Jan. 19. A life-long resident of Humbolt, Miss Fankhauser worked for LT&T from 1920 to 1949 when she retired on pension. She was assistant chief operator for 22 years before retirement.

She was a charter member of the Frank H. Woods chapter of the Independent Telephone Pioneer Association. Surviving are five sisters and four brothers.

INERT



You'll keep surface leakage at a minimum wherever you use Armstrong Glass Insulators. They have high dielectric characteristics, and they are molded from a tough industrial glass of good mechanical and chemical durability. For details, write Armstrong Cork Co., Glass and Closure Division, 295 Fifth Ave., New York 16, N. Y.

Armstrong GLASS INSULATORS
for communications . . . for power

IN THE NATION'S CAPITAL

Continued from page 18

delphia and microscope slides of the sectioned tissues were color telecast for the first time in history during the course of the operation.

Four television presentations using coaxial cables and micro-wave were received at the Armed Forces Institute of Pathology Building in Washington from the University of Pennsylvania hospital, from studios in Baltimore (WBAL) and from the Bethesda, Md., National Naval Medical Center. Although color television has been used for several years in the field of medicine and surgery, no evaluations have been made of this medium in the field of pathology. The telecast included a teaching session on such pre-diagnostic techniques as the proper staining of microscope slides.

In a televised clinical conference between pathologists the diseased tissue cells were pointed out and the doctors, getting their heads together long distance, confirmed their finding of malignant growth and passed along the recommendation that all suspect tissue be removed from the patients' body during the remainder of the operation. During the symposium the two systems vying for color TV dominance—the CBS "sequential" system and the RCA "simultaneous" or "compatible" system—shared in the historic event—but not in side-by-side demonstrations for sake of comparison.

The institute's television committee,

1955 CONVENTIONS

Minnesota Telephone Association, St. Paul Hotel, St. Paul, Feb. 14, 15 and 16.

Louisiana Telephone Association, Jung Hotel, New Orleans, Feb. 16 and 17.

Kentucky Independent Telephone Association, Phoenix Hotel, Lexington, Mar. 1.

Texas Telephone Association, Plaza Hotel, San Antonio, Mar. 14 and 15.

Nebraska Telephone Association, Cornhusker Hotel, Lincoln, Mar. 22 and 23.

Ohio Independent Telephone Association, Deshler Hilton Hotel, Columbus, Mar. 28, 29 and 30.

United States Independent Telephone Association Executives Conference, Belleview-Biltmore Hotel, Belleair, Fla., Apr. 4 and 5.

Iowa Independent Telephone Association, Fort Des Moines Hotel, Des Moines, Apr. 12 and 13.

Wisconsin State Telephone Association, Loraine Hotel, Madison, May 4 and 5.

Indiana Telephone Association, Claypool Hotel, Indianapolis, May 11 and 12.

The Illinois Telephone Association, Pere Marquette Hotel, Peoria, May 19 and 20.

Kansas-Missouri Telephone Associations (joint convention), Town House Hotel, Kansas City, Kan., May 23 and 24.

Pennsylvania Independent Telephone Association, Pocono Manor Inn, Pocono Manor, June 1 and 2.

California Independent Telephone Association, Ambassador Hotel, Los Angeles, June 9 and 10.

New York State Telephone Association, Scaroon Manor Hotel, Schroon Lake, June 13, 14 and 15.

Oregon-Washington Independent Telephone Associations (joint convention), Olympic Hotel, Seattle, Wash., June 17 and 18.

Michigan Independent Telephone Association, Pantlind Hotel, Grand Rapids, Sept. 8 and 9.

Rocky Mountain Telephone Association, Utah Hotel, Salt Lake City, Utah, Sept. 15 and 16.

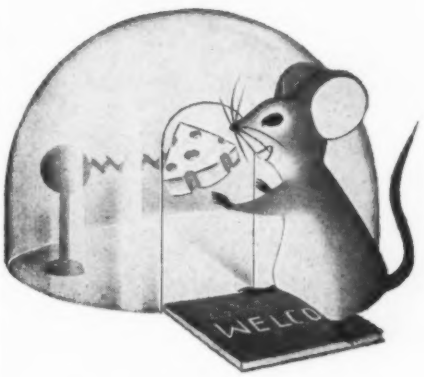
Arkansas Telephone Association, Arlington Hotel, Hot Springs, Sept. 26 and 27.

United States Independent Telephone Association (annual convention), Conrad Hilton Hotel, Chicago, Oct. 10, 11 and 12.

Virginia-West Virginia Independent Telephone Associations (joint convention) Hotel Roanoke, Roanoke, Va., Oct. 20 and 21.

Alabama-Mississippi Telephone Association, Thomas Jefferson Hotel, Birmingham, Ala., Nov. 14 and 15.

We've Built a Better Mousetrap



FLOTROL

THE BATTERY CHARGER WITH NO MOVING PARTS *

Model 1200B

And telephone men are beating a path to our door.

They've found that FLOTROL does what they always hoped their battery charger really would do; IT HOLDS CONSTANT FLOATING VOLTAGE on the battery.

They've found, too, what it can mean to have a charger which doesn't require attention, one they can depend on to do its job, year in and year out, without costly and annoying routine maintenance or adjustment.

For complete information, write for Bulletin 160, which describes the single-phase models, from 1/2 ampere to 24 amperes, and Bulletin 161 which covers three-phase models from 25 amperes to 200 amperes.

* *No good on mice.*

LORAIN PRODUCTS CORPORATION
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SUB-CYCLE

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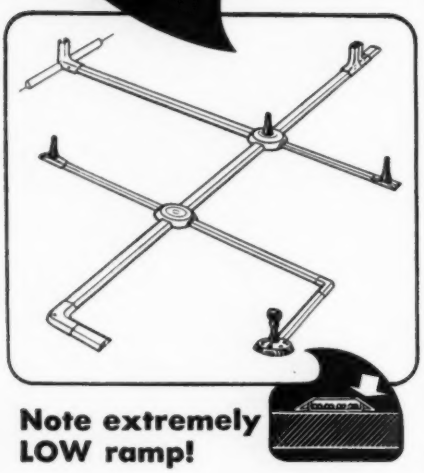
PANCAKE
OVERFLOOR RACEWAYS

Here's the *most adaptable system for overfloor Telephone Wiring*



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headed by Col. J. L. Bernier, Dental Corps., USA, called the symposium together. Among the noteworthy participants were: Dr. Alfred N. Goldsmith, chief consultant for RCA; Dr. Peter C. Goldmark, vice president, CBS labs; Edward W. Allen, chief engineer of FCC; Dr. Axel G. Jensen, director of TV Research, Bell Labs; and Maj. Gen. G. I. Back, Chief Signal Officer, Department of the Army. The other associations represented read like a Who's Who in the fields of medicine, industry, and the military.

There was Assistant Secretary of Defense (for health and medicine) Berry; Dr. Murray Brown, National Institute of Health; the Deputy Surgeon General, General Hays; Commanding General of Walter Reed Hospital; Dr. Lyon of VA; Dr. Steele, Joint Committee on Educational TV; Dr. Washburn of Chicago; Dr. Alsever, public health service consultant to the Federal Civil Defense Administrator; the Surgeon of the Air Force Academy, Denver, Colo.; Military Academy, West Point; Medical School representatives from well-known national and local schools; and representatives of broadcasting station and local telephone companies and of the Mayo Clinic of Rochester, Minn.

The first 45 minutes of the telecast came via RCA's system over coaxial cable between Philadelphia and Baltimore. RCA hailed the event as the highlight of the three-day symposium and the first time that "color television of government-approved standards was used . . . as a means of inter-city consultation and diagnosis by pathologists in combatting disease."

Moving Into the Operating Room

The surgical team stood by in an operating room (OR) of the University of Pennsylvania hospital in Philadelphia. Tissue which had been removed from a patient was examined by a waiting pathologist and, simultaneously, color television and microscopic views of the specimen were seen by colleagues and observers in Baltimore (WBAL-TV) and Washington, D. C. The sequence was followed by two 15-minute programs employing the RCA compatible color television equipment on an inter-city basis to explore this medium's possibilities as a tool in medical teaching and research.

More than 150 pathologists and an equal number of other observers were assembled before a color TV set in a hall in the Armed Force Institute of Pathology's new bomb proof building. A smaller group at the WBAL-TV studio in Baltimore, Md., was also able to witness the scenes and action transmitted by closed circuit color TV from Philly. A color camera at WBAL-TV covered the diagnostic consultation there. A color camera also peered over the surgeon's shoulder in the U. of P. hospital OR and watched as a waiting pathologist carried out the examination of the removed tissue. It peered at the prepared specimen through a microscope and transmitted the image to viewers in Baltimore and Washington. After the diagnostician examined the image of the frozen section on his receiver screen his remarks were carried instantly to Washington and Philadelphia. The surgeon in Philadelphia was able, through a foot-lever to cut out remarks or instructions to his staff in the OR amphitheater without interfering with the visual effect.

Dr. Alfred N. Goldsmith, a pioneer electronics engineer and inventor of the RCA system said the color TV demonstration "should prove an eye-opener for the entire medical profession." It has shown, he said, that color TV "can and will give the medical profession's universities, lecture halls, consultation rooms, clinics and laboratories a scope as wide as the country" and can provide to all of these an intercommunication with the speed of light itself.

CBS got into the act via a microwave intra-city broadcast from the Bethesda, Md., National Naval Medical Center which filled out an hour. Here the CBS system served to telecast microscopic examinations of slides and gross tissue which were projected on a large screen—6 feet x 9 feet.

This demonstration was viewed by the observing group in the institute's new building. William J. Morlock, general manager of the commercial equipment department of General Electric Co. which produces the instruments for the CBS color system, addressed the gathering on the application of television to the medical, industrial, and military fields. The degree of application, he said, depends upon four factors: (1) Initial cost; (2) maintenance cost; (3) complexity of operation; and (4) over-all usefulness compared to alternate methods of doing the same thing.

In the medical field its use has been studied for surgical and clinical presentations, security in mental hospitals, monitoring in ward areas and the viewing of X-rays. In the industrial field it has been adapted for use in inspection, job surveillance, conference, production control, and hazardous operations. Applications in the military field are assumed to be many and varied. Morlock saw his department's chief contribution as that of providing equipment which is the best adaptable to the particular field of use.

It is his belief that the interested

industry or field of endeavor should be given all of the information possible on the available techniques, methods, and systems which have been developed to date, and that the equipment manufacturer should get all the information possible on the intended use for television. Once all the data is assembled the best equipment can be made, he said.

PLASTIC CABLE

Concluded from page 20

these savings available, the larger companies have tended to look suspiciously at this new product.

It has been difficult in some instances to get manufacturers to experiment and develop new accessories for this product. We don't feel that these methods and techniques (described) here today are the final answer, but we would like to see the industry, generally, realize the savings available with this product and really begin to exploit its inherent advantages and develop accessories to work with it.

We are now making studies comparing the cost of splicing plastic cable into service as against splicing lead cable into service. We hope this data will show we can use plastic cables up to 200 pair, economically, even though the original cost is higher. Larger size plastic cables will be handicapped by the physical dimensions of existing conduit systems so that lead cables of 600 pair, 900 pair, etc., will probably be the standard for many years to come. However, if our Independent industry believes in its own propaganda relative to its contributions to the art of telephony, plastic cables of even thinner insulation may be developed so that we can use larger and larger plastic cables.

V V

General of NW Registers $3,600,000 Preferred Issue

General Telephone Co. of the Northwest, Spokane, Wash., registered with the Securities & Exchange Commission 144,000 shares 3.6 million dollars of 4.8 per cent cumulative preferred stock, $25 par, to be offered for public sale.

The sale would be handled by an underwriting group headed by Paine, Webber, Jackson & Curtis; Stone & Webster Securities Corp., and Pacific Northwest Co., it was reported on Jan. 17. Net proceeds would be used to repay bank loans made to finance 1954 and 1955 construction.

The company also will issue and sell to its parent, General Telephone Corp., New York City, 16,000 additional shares of its common stock for $416,000 to finance 1955 construction.

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PETER MILLAR

J. F. MILLS

G. V. WILLIAMSON

Manitoba Telephone System Announces Executive Changes

J. F. Mills, M.E.I.E., president of Siemens Brothers (Canada) Ltd., has been appointed commissioner and general manager of the Manitoba Telephone System, Winnipeg, Canada. He assumed this position following the recent retirement of Peter Millar, commissioner and general manager since 1945.

Mr. Mills was with the Siemens company from 1926 to 1936, and in 1930 took a special telecommunications engineering course in their main factory in London, England. He served the Manitoba system from 1936 to 1952, and was appointed chief engineer in 1945 and assistant general manager in 1948. He then became vice president of Siemens Brothers in 1952, and president in January, 1954.

Mr. Millar, just retired as commissioner and general manager of the

W. H. BACKHOUSE

Manitoba company, was born in Glasgow, went to Winnipeg in 1909 and joined the Manitoba system. In 1939 he was promoted to auditor, and in 1940 became comptroller. In 1943 he was loaned to the Dominion government for important war-time duties as general manager of a Crown company, Defence Communications Ltd., involving charge of long distance communication from Ottawa. He then returned to the Manitoba system, and in 1945 was appointed commissioner and general manager. During his tenure in that capacity, the system more than doubled its services to the public.

Among other executive changes in the Manitoba system at this time is the appointment of G. V. Williamson, who has been named comptroller and member of the executive committee, following the retirement of William H. Backhouse. Mr. Williamson joined the telephone system in 1931, and became plant accountant in 1950.

Mr. Backhouse, born in Liverpool, went to Canada in 1910. He joined

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the Manitoba Telephone System in 1916, and was employed in the accounting department until 1932, during this period holding the position of revenue accountant. In 1932 he became manager of the system's radio department. He is a past president of the Trans-Canada Telephone System and of the Manitoba Chapter of the Telephone Pioneers of America.

V V

Canadian Company Announces Plant Managerial Promotions

W. S. Pipes, vice president and general manager of the British Columbia Telephone Co., Vancouver, Canada, announced recently that Charles A. Moore has been appointed general plant manager.

Formerly assistant general plant

C. A. MOORE

manager, and a company employe since 1916, Mr. Moore succeeds W. R. Jones who is continuing in a management advisory capacity pending retirement at a later date.

Also announced were the appointments of H. F. Urquhart as general plant supervisor and A. C. Irvine as Vancouver district plant manager.

Mr. Moore, the new general plant manager, has held various supervisory positions during his 38-year telephone career, including that of district plant superintendent at Victoria.

V V

Stromberg-Carlson Announces Executive Changes

R. C. Tait, president of the Stromberg-Carlson Co., announced on Dec. 22, 1954, that the board of directors at its regular meeting voted three changes in officer titles and added two new officers, as follows:

John H. Voss, formerly general manager, telephone division, became vice president, telephone division.

J. H. VOSS

Clifford J. Hunt, formerly general manager, radio-television division, became vice president, radio-television division.

Anthony G. Schifino, formerly general manager, sound division, became vice president, sound division.

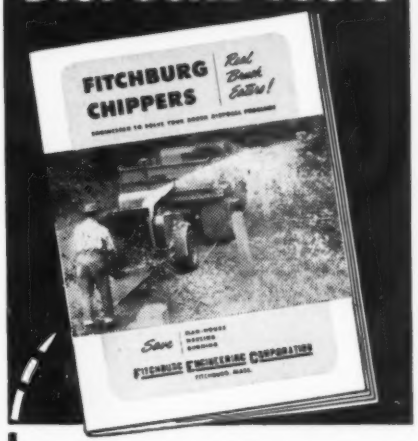
Philip J. Lucier, formerly manager of the telephone finance department, became assistant treasurer and manager, telephone finance department.

Arthur J. Fink, formerly general credit manager, became assistant treasurer and general credit manager.

John H. Voss, vice president, telephone division, joined Stromberg-Carlson in 1946 as head of the circuit development and testing laboratory for XY dial and relay-dial systems. In 1948, he assumed responsibility for the direction of all phases of dial system engineering, in 1949 was appointed chief engineer of the telephone division, and in 1953 became general manager of this division. Mr. Voss has been in the telephone business continuously

C. J. HUNT

CUT BRUSH DISPOSAL COSTS



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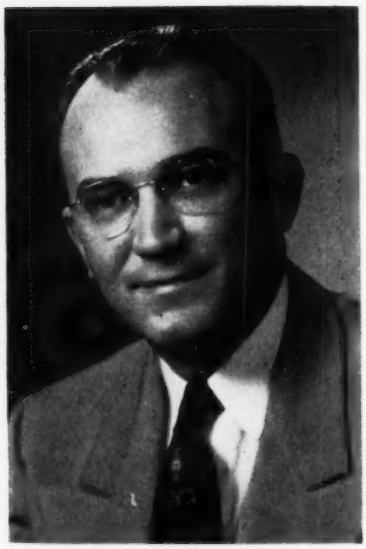
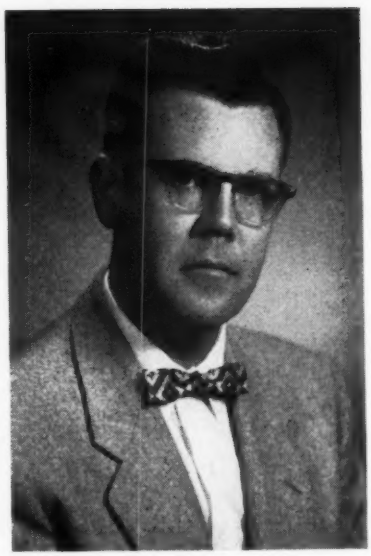


A. G. SCHIFINO



P. J. LUCIER

since 1920, having held important positions with the Automatic Electric Co., Chicago, prior to 1946. He holds 45 patents on various developments for telephone exchanges.

Clifford J. Hunt, vice president, radio-television division, had experience in all phases of retail merchandising before becoming a sales representative for Stromberg-Carlson in the Philadelphia territory in 1928. He moved to Rochester in 1941 to become distributor manager of radio products, was appointed general sales manager the following year, and general manager of the radio-television division in 1949. Mr. Hunt is well known throughout the radio-television industry, and is active in numerous national industry trade associations, including membership on the executive committee of the set division of the Radio-Electronics-Television Manufacturers Association (RETMA).

Anthony G. Schifino, vice president, sound division, joined Stromberg-Carlson in 1929. Following two years experience in the telephone laboratory and sales engineering department, he left the company to establish his own business, Sound Equipment Engineering Co., and later the Rochester Radio Supply Co. He severed his connections with the latter in 1940 to rejoin the Stromberg-Carlson Co. as chief sound equipment engineer, became manager of the sound equipment division in 1942, and in 1949 general manager of this division. Mr. Schifino has served on many technical committees in national associations.

Philip J. Lucier began his service with Stromberg-Carlson in 1946, following 10 years of telephone experience with the United Telephone Co. of Indiana, and four years of active duty with the U. S. Navy in both Atlantic and Pacific theatres during World War II, attaining a Lt. Commander commission. He was assigned the southeastern states as a sales representative of the telephone division, and in 1950 moved to Rochester to become manager of the telephone finance department, and vice president of the Stromberg-Carlson Credit Corp.

Arthur J. Fink joined Stromberg-Carlson in 1945, following 14 years experience with Shields & Co., George D. B. Bonbright, and Dun & Bradstreet, Inc. His experience at Stromberg-Carlson has included special credit representative, assistant credit manager, assistant general credit manager, and general credit manager since 1952.

V V

Indiana Bill Would Punish Refusal to Yield Party Line

Refusal to yield a telephone party line for emergency use would be outlawed by a legislative bill proposed by Rep. W. O. Hughes (R.) of Fort Wayne, Ind.

The bill would require party-line users to hang up their telephones during personal or routine calls to clear the line for persons trying to call the fire department, police or other parties in an emergency. Violation of the law would be a misdemeanor.

Rep. Hughes' proposal was rooted in an incident that occurred near Fort Wayne on Jan. 13. Fire destroyed a $15,000 home under construction.

A neighbor told authorities he tried to telephone the St. Joseph fire department but was unable to do so because two women, chatting on the telephone, refused to yield the line for six minutes.

V V

We ask advice, but we mean approbation.—COLTON.

helpful LITERATURE

TELEVISION MICROWAVE. Announcement has been made by the Raytheon Mfg. Co. of the availability of a new eight-page brochure describing the company's KTR-100A television microwave relay equipment.

This equipment will now carry both color or monochrome video and audio simultaneously. The same basic system is readily adaptable for broadcast, common carrier industrial or government bands. Request HL 223.

• • •

METAL COMPARTMENTS. The complete line of Mills toilet compartments, shower and dressing rooms and shower units is described and illustrated in the 20-page Mills Metal Compartment Catalog for 1955.

A special feature of the catalog is a color chart to aid in color planning. It includes actual-color samples of the 20 Mills standard colors, available in porcelain enamel and baked-on enamel factory finishes.

Typical installations of the various types of Mills toilet compartments—Marblmetal Ceiling-Hung, Marblmetal Floor Braced, Sentinel and Metal Flush—are illustrated in attractive two-tone color combinations. Text gives full information on Mills design and construction features, including specifications and detail drawings of typical layouts. Illustrations of all standard hardware and fittings for Mills compartments are also included.

All of these Mills compartments and allied products are manufactured by the Mills Metal Compartment Co., division of The Mills Co. Request HL 224.

• • •

PAYSTATION REVENUE. A new booklet, "How to Make Paystations Pay In Your Area," has been published by Automatic Electric Co.

Based on a survey of the most successful practices in various parts of the country, the new publication covers every aspect of making money with paystations, from methods of picking revenue-producing locations to procedures for coin collecting and accounting. Request HL 225.

• • •

CURRENT FLOW TEST SET. The Current-Flow Test Set is the subject of a circular—T1831—just published by Automatic Electric Co., and now available.

This new literature describes how the Current-Flow Test equipment compensates for variations in the voltage of the test current, allowing the tester to set up the exact current desired, irrespective of voltage values. The set was designed for normal telephone exchange voltages, but can be adapted to any voltage from 6 to 220. Request HL 226.

• • •

LINEFINDER TEST SET. Automatic Electric also has issued a circular—T1826—describing the Linefinder Test Set, a device used in checking linefinder switches after adjustment, and before the switch is returned to the shelf.

The new circular explains how the Linefinder Test Set checks the basic finder function of the most commonly-used Strowger-type finders, including vertical and rotary stepping, continuity of leads to the switch jack, continuity of relay "break" contacts with the relay normal and with the relay operated, continuity of relay "make" contacts

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with the relay operated, and continuity of wiper circuits. Request HL 227.

• • •

CORD-TYPE MANUAL TOLL SWITCHBOARD. Automatic Electric also announces publication of a circular—T1838—on its new No. 31 cord-type manual toll switchboard.

The circular deals with the built-in position-testing feature of the new toll board, and the new circuits that permit full compliance with latest toll handling procedures. "Idle line indicating," "overlap" operation (talking on one circuit while dialing on another and yet not using a separate dialing key); key-sender operation, and various optional services such as selector access, group busy, pneumatic tubes, and "posted delay" are also described. Request HL 228.

• • •

WIRE AND CABLE HANGER ADHESIVE. Detailed information concerning *Placco 1000*, the newest in high-strength adhesive agents for telephone wire and cable hangers, is now contained in an illustrated bulletin available from Pioneer Latex & Chemical Co. The bulletin includes a complete line of wire and cable hangers in both stainless and galvanized steel in addition to the one illustrated.

IN THE FIELD as in laboratory tests . . . *Crapo* Galvanized Steel Strand proves itself capable of withstanding severe punishment. Steel's inherent strength and durability are combined with definite economies in every size and grade of *Crapo* Steel Strand. You'll find the heavy, ductile, tightly-bonded zinc coatings, applied by the famous *Crapo* Galvanizing Process, provide lasting protection against corrosion.

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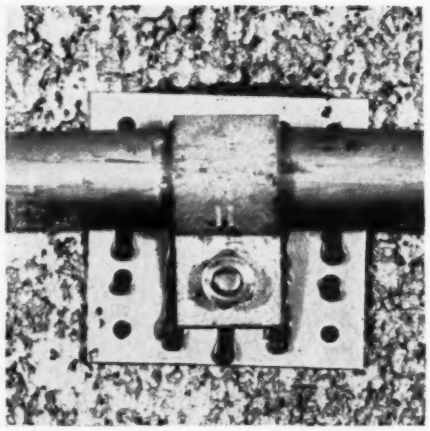


According to the bulletin, *Placco 1000* is proving to be an important technical advance to telephone companies, offering low-cost installation of wire and cable hangers, and backboards.

A recognized independent testing laboratory reported recently that a 2-inch square bond of *Placco 1000* will stand a pull of over 300 pounds at a temperature above 300 degrees F., according to the company.

Pioneer's bulletin points out that many surfaces, even wood and masonry, will tear away before the new adhesive will fail. In addition, it has the advantage of easy use in congested, hard-to-reach quarters and is applied noiselessly.

A quick-setting, heavy bodied, rubbery material, the adhesive will adhere equally well to porous and non-porous surfaces. Tests show it to be waterproof, heat resistant, permanent under all weather conditions, corrosion resistant, flexible, non-inflammable, non-toxic, and resists the harshest actions of minerals and chemicals.

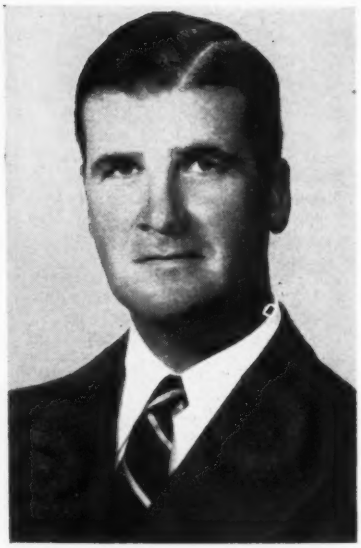
According to the bulletin, the new adhesive is recommended for installation both indoors and out, on surfaces of metal, masonry, tile, marble, terra cotta, and glass, where its usage eliminates the problems of drilling and many other difficulties ordinarily encountered. Request HL 229.

V V

Expansion of Three Plants Completed by Hubbard & Co.

Hubbard & Co., reportedly the world's largest manufacturer of pole line hardware, has just completed a 1½-million-dollar expansion and modernization program at its three major plants. The plants are located in Oakland, Cal., Chicago and Pittsburgh.

James H. Knowles, president of the 112-year-old firm, said the recently completed expansion program "will substantially increase our productive capacity and has been geared to keep pace with the increased demand for Hubbard's products. . . ."



J. H. KNOWLES

He continued, "While the major part of our expansion program has been concentrated in Oakland to meet the greatly accelerated industrial activity on the Pacific Coast, we are realigning all of our manufacturing facilities throughout the company and expanding our distribution."

The Pacific branch has added 40,000 square feet of floor space including a new building for galvanizing operations and additional room for storage of raw materials and assembly operations. The recent addition is the fifth since the plant was placed in operation in 1924.

Hubbard's Chicago operations, in nearby Cicero, have been expanded through addition of a new warehouse and loading dock. The addition was completed last month and includes a completely integrated warehousing and shipping operation. Six new truck ramps have been installed to further expedite shipping and receiving.

Space formerly used for warehousing is now being utilized for an improved research and engineering laboratory and further modernization of assembly and machine operations.

"Most of the manufacturing changes in Chicago are being made to provide additional capacity for production of lightning arrestors and pole line hardware," Mr. Knowles said.

In Pittsburgh, the company has completed an extensive program of warehousing and shipping improvements and is now making major layout and equipment changes in its pole line hardware manufacturing operations.

V V

Inquisitive people are the funnels of conversation; they do not take in anything for their own use, but merely to pass it to another.—STEELE.

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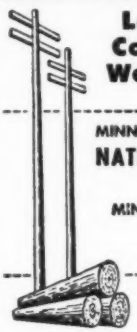
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Prodelin Names R. G. Maddox Sales Vice President

Ralph G. Maddox, formerly technical service manager, has been appointed vice president in charge of technical sales and service by the board of directors of Prodelin Inc., designers and manufacturers of television and microwave antenna system facilities, with general office, plant and laboratories located in Kearny, N. J.

In 1923, following his attendance at Gustafus Adolphus College, Mr. Maddox was engaged in the installation of the first radio arc transmitters used aboard U. S. Navy vessels operating in the Asiatic Fleet. In 1925 he returned to the U. S. A. to work as a field engineer for the R.C.A. Radiola division which he left later to organize and operate his own broadcasting station KFWH.

In 1930 he joined the Telephone Equipment & Engineering Co. of San Francisco, working on ship-to-shore radio communication problems. During World War II he was assigned to the engineering staff of the Signal Corps General Development Laboratories at Fort Monmouth, N. J., in charge of the systems engineering branch, coordinating the Army's pulse modulated microwave radio relay system. In 1944 at the Federal Telephone & Radio Co., in Clifton, N. J., he further developed telephone carrier and multi-channel radio relay systems for adaptation to commercial application and as systems development engineer he planned and supervised the first commercial installations of telephone microwave relay systems which have since been established in many other services throughout the country.

Since joining Prodelin Mr. Maddox has continued to pioneer the first operating UHF television stations installations to use high power waveguide as well as to promote the expansion and use of VHF-TV Broadcast and microwave antenna systems manufactured by Prodelin.

Mr. Maddox is a member of the Institute of Radio Engineers and actively participates in the standardization work of the Radio-Electronics-Television Manufacturers Association.

V V

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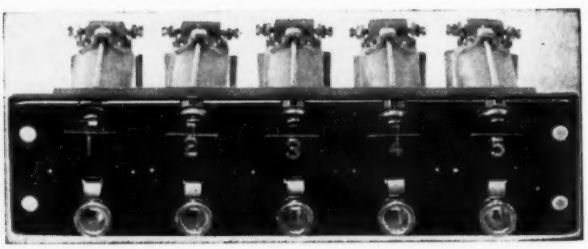

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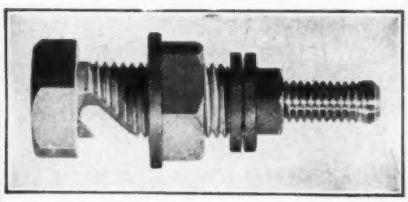

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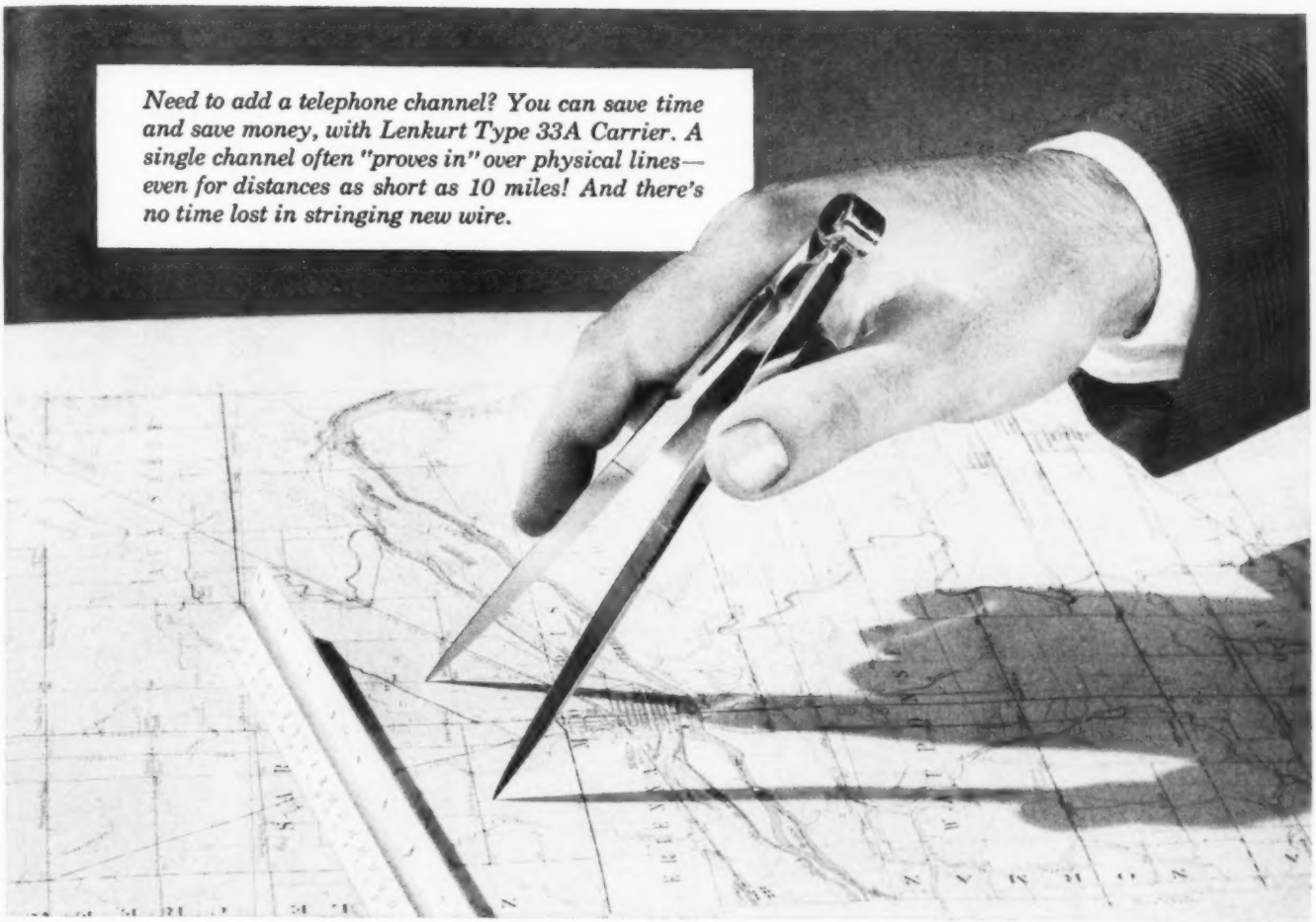
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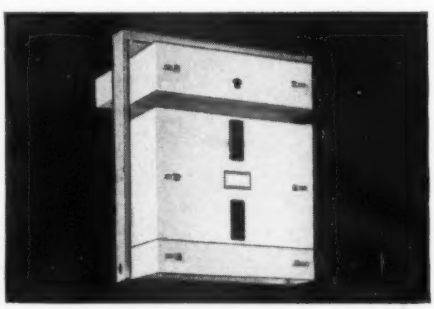

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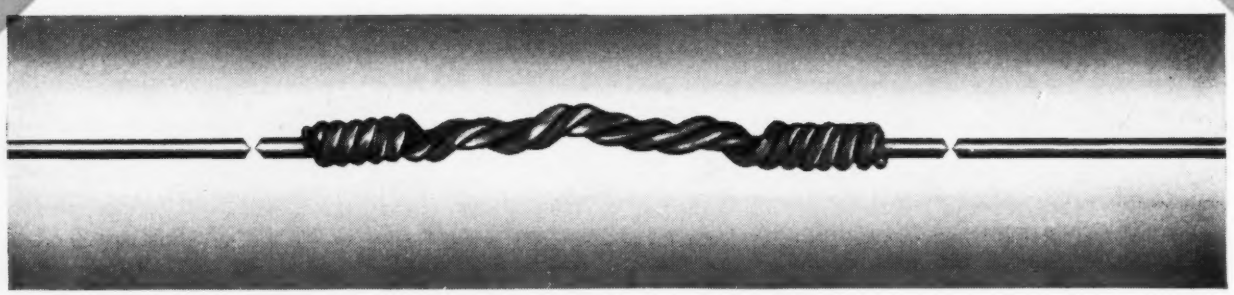

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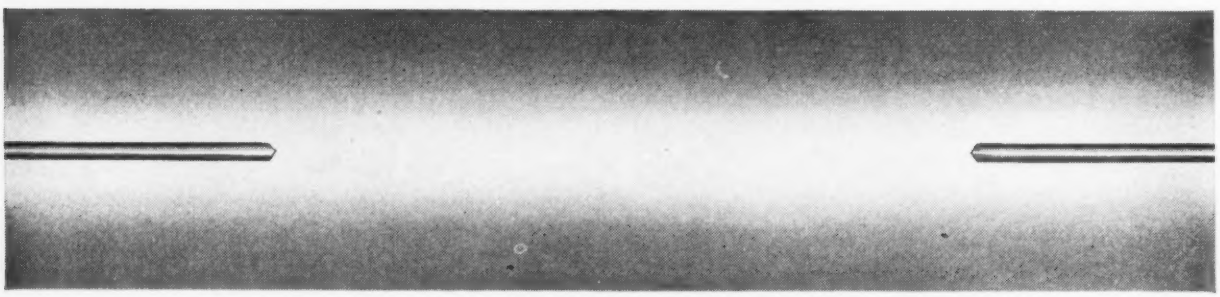

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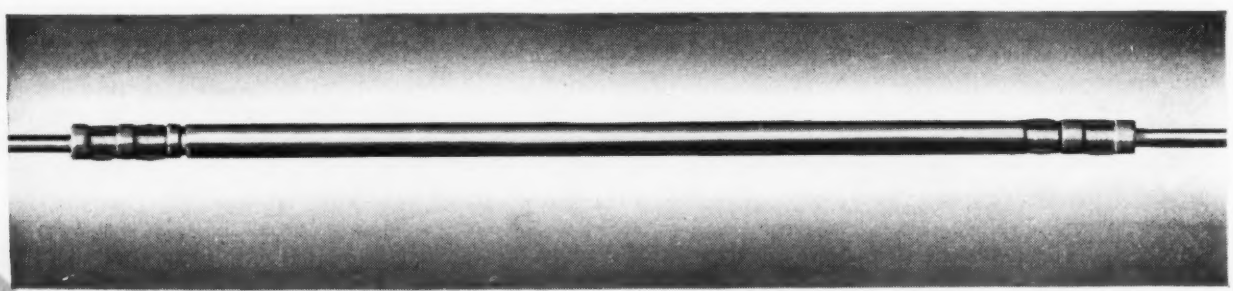

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